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المواصفات الفنية للتجهيزات الطبية

Technical Specifications of Medical Equipments

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	المواصفات الفنية للتجهيزات الطبية
	Standard Technical Condition : الشروط العامة للمناقصة
	Technical Operation manual :
	Original brochures and technical data sheets must accompany the offers, non-compliance will be disqualified
	Service Training three MWC Bio-Engineer shall be provided(Tow on lot 1 equipment & one on 2&3 LOT equipment training) within the first year of warranty in the country of the origin
	Installation & Commissioning must be done by manufacturer engineer
	User / Doctors training, satisfactory demonstration, and applications training to be conducted by Clinical Application Specialist from the manufacturers.
	Model release date/ latest version
	Special feature of the product (other than mentioned on list)
	Extra Special feature or option of the product not include in our Specification. (Put on separate price on list)
	2 Years comprehensive warranty, from the date of installation and commissioning
	Accessories if any (to put machine/ system into operation)
	Consumable if any (to put machine/ system into operation)
	Extra Parts not mentioned in specifications if any (to put machine/ system into operation)
	the product should be CE Market high quality or FDA certificates
	Power Supply: 100V-240 v/50Hz
	The options will be taken dependent on budget enough
	Every machin must have :-
	1-User manual in English.
	2-Service manual in English.
	3-software CD for user and service manual

	Standard	Requirements			Specified	Yes/No	Catalogue/Brochure PAGE NUMBER where	Supplier's Confirmation/ Remarks		
	Manufacturer									
	Model Number									
	Safety standard									
	MARKET CLEARANCE									
	TECHNICAL SPECIFICATION									
	PATIENT TYPE :									
	Design and quality									
	OPERATING MODES									
	CONTROLS/SETTING RANGES :									
	PATIENT ASSESSMENT TOOLS :									
	INTEGRATED CAPABILITIES :									
	DISPLAY									
	MONITORED/DISPLAYED PARAMETERS :									
	ALARMS :									
	Alarm limits (adjustable)									
	PATIENT ALARMS :									
	EQUIPMENT ALARMS :									
	MISCELLANEOUS INFORMATION :									
	PATIENT TRANSPORT CAPABILITY (Please Specify)									
	ON-BOARD AIR COMPRESSOR OR TURBINE									
	Power Supply									
	INTERNAL BACK-UP BATTERY									
	Accessories, spares and consumables									
	Estimated life-span of the device:									
	Installation & Commissioning :									
	Warranty/After Sale Service									
	Training									
	Essential requirement:									
	Maintenance:									
	PREVENTIVE MAINTENANCE									
	Recommended frequency :									
	Other specification									

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Standard Technical Condition : الشروط العامة للمناقصة
Technical Operation manual
Original brochures and technical data sheets must accompany the offers, non-compliance will be disqualified
Special feature of the product (other than mentioned on list)
Extra Special feature or option of the product not include in our Specification. (Put on separate price on list)
2 Years comprehensive warranty, from the date of installation and commissioning
Accessories if any (to put machine/ system into operation)
Consumable if any (to put machine/ system into operation)
Extra Parts not mentioned in specifications if any (to put machine/ system into operation)
the product should be CE Market high quality or FDA certificates
Power Supply: 3 phase /50Hz
The options will be taken dependent on budget enough
Every machin must have :-
1-User manual in English.
2-Service manual in English.
3-software CD orginal
NOTE :-ALL the company who will share in the tender must to visit the location of project pefore they order their p.invoice
all the advance featcher are important untill if we did not mentioned in the specisfications so you must to make it in list price or free
Training course for 2 biomedical engineer in maufacturer country
NOTE :- all the Site preparation including interiors and Air-conditioning decoration and saftey (LEAD SHEET .GLASS LEAD....etc) and all things that will make work better must be include and all options must be inculde in extra price list . SO if we discover there are some option the companies does not give us there costs it will be free

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
مواصفات جهاز					0					
NO					0					
	Standard	Requirements			Specified	Yes/No	Catalogue/Brochure PAGE NUMBER where specification is mentioned	Supplier's Confirmation/ Remarks		
اجهزة قسم										
	Department									
مواصفات					0					
NO					0					
	Standard	Requirements								

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2 MRI Compatable Transport Ventilator For Adult, Pediatric & Infant		مواصفات جهاز تنفس صناعي محمول مناسب للرنين المغناطيسي	2
3 Transport Ventilator For Adult, Pediatric & Infant		مواصفات جهاز تنفس صناعي محمول مع المراقبة	3
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5 MRI Compatable Transport Monitor For Adult, Pediatric & Infant		مواصفات جهاز مراقبة العلامات الحيوية محمول مناسب للرنين المغناطيسى	5
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3	**Phototherapy Unit**		**مواصفات جهاز علاج المواليد بالاضاءة**	3
4	**Oxygen Generator**		**مواصفات مكثفات الأكسجين**	4

اجهزة قسم العناية المركزة

I .C. U. Department

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم العناية المركزة							
		I .C. U. Department							
		مواصفات جهاز التنفس الصناعي			0				
NO		Lung Ventilator For Adult, Pediatric & Infant			0				
	Standard	Requirements			Specified	Yes/No	Catalogue/Brochure PAGE NUMBER where	Supplier's Confirmation/ Remarks	
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard								
	Required	**FDA CLEARANCE**							
	Required	**CE MARK (MDD)**							
	Required	**ISO 80601-2-12:2011 COMPLIANT**							
	MARKET CLEARANCE	**PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA**							
		Certificate of product tradding in the European Union or USA.							
	TECHNICAL SPECIFICATION	It should be advanced technology ventilator for use in ICU, dedicated for ventilating neonate, pediatric & adult patients.							
	PATIENT TYPE :	**Adult, Pediatric & Infant**							
	Design and quality	**Compact , mobile, heavy duty and high quality**							
	Design	**Mobil with Four casters with brakes.** **New model, able for high load & hard work**							
	Ventilator System								
		Microprocessor controlled used for pediatric and adult							
		Humidifier.							
		Compressor or turpine >60000 hour - full 7 years warranty							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Nebulizer							
	OPERATING MODES	**Should have the following modes of ventilation:**							
		- Volume control							
	Required	**Assist/control mode**							
	Required	**A/C volume breaths**							
		CMV Volume controlled							
		(Assist / control)							
		- Pressure control							
	Required	**A/C pressure breaths**							
		CMV Pressure controlled							
		(Assist / control)							
		- Pressure Regulated Volume Control (PRVC)							
		- Pressure support with back-up ventilation							
		- CPAP							
		- Volume support							
	Required	**SIMV mode**							
	Required	**SIMV volume breaths**							
		Spontaneous pressure support							
	Required	**SIMV pressure breaths**							
	Required	**SIMV pressure support**							
		- SIMV (Volume Control) + Pressure support							
		- SIMV (Pressure Control) + Pressure support							
		- SIMV (PRVC) + Pressure Support							
	Required	**CPAP pressure support**							
	Required	**Invasive Ventilation**							
	Required	**Non-invasive ventilation (NIV, NIV-ST , HiFLOW)**							
	Required	**Apnea-backup vent mode**							
		Apnea pack up ventilation							
		Pause (plateau)							
		- Automode							
	Preferable	Automatic ventilation mode							
		- Open Lung Tool							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	(Please Specify)	**Newer Modes**							
	(Please Specify)	**Other Modes (Please Specify)**							
	CONTROLS/SETTING RANGES :								
	(0-2000)	**Tidal volume (Exhaled Tidal Volume (VT)), mL**							
		Frequency 0 to 160 bpm							
	0-160 BPM	**Respiratory rate, breaths/min**							
		- CMV Frequency: 0 – 160 breaths / min							
		- SIMV frequency: 1 – 60 breaths / min							
	Trigger mechanism	Pressure , flow							
	Pressure, flow	**Trigger mechanism**							
		- Trigger flow:							
		- Trigger Pressure:							
	% : 21-100	**FiO2 (Oxygen Concentration (%O2))**							
	0-180	**Inspiratory flow rate, L/min**							
		Inspiratory flow rate, L/min: 0-180							
	0-20	**Expiratory pressure (EPAP), cm H2O :**							
	0-60	**Inspiratory pressure (IPAP), cm H2O :**							
		Insp. pressure (0-80) cm H2O							
		- Inspiratory rise time:							
		- Inspiratory time: 0.1 – 5 sec							
		- Pause time: 0 –30% of breath cycle time							
	Specify	**IE ratio**							
		- I : E ratio: 1:10–4:1							
		I : E ratio 4 : 1 – 1 : 4 or better							
		- Pressure level: 0 –120							
		- PEEP: 0 –50							
		PEEP / CPAP (0 – 30) cm H2O or better							
	0-20	**PEEP/CPAP, cm H2O :**							
	0-40	**Pressure support (S/T), cm H2O :**							
		Pressure support : (0-80) cm H2O							
	Required	**Control panel lock**							
	Required	**Sigh breath function**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Preferable	Sigh							
	Preferable	Reporting (vent alarms and patient status)							
	Required	**Leak compensation**							
	Preferable	Leak compensation (Preferred)							
	Required	**Auto 100%/Increase O2 button**							
		Oxygen : 21 to 100 %							
	Preferable	Patient assessment tools							
	Required	**Flow pattern/waveform adjustment**							
	PATIENT ASSESSMENT TOOLS :								
	≥ 5 hr	**Maximum waveforms displayed**							
	≥ 72 hr	**Maximum trending time**							
	Required	**Lung recruitment tools (PV loops)**							
	Required	**Lung mechanics visualization tool**							
	(Please Specify)	**Other patient assessment tools :**							
	INTEGRATED CAPABILITIES :								
	Required	**Integrated nebulizer**							
	Preferred	**Pulse oximetry**							
	Preferred	**Heliox compatibility**							
	(Please Specify)	**Other integrated capabilities**							
	DISPLAY								
		Integrated graphical display , at least 14 " colour monitor , for settings, values , pressure and flow curves.							
	Ventilation Display / Mo	Multicolor LCD display							
		Led, **Touchscreen (Not less than 7' color , touch)**							
	Size, cm (in) :	12" or more							
		should have minimum 12" size TFT active matrix color screen							
	Graphic waveform , trends & loops								
		Flow							
		Volume							
		Pressure							
		should be possible to simultaneously display at least four waveforms & loops for each breath.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	MONITORED/DISPLAYED PARAMETERS :								
		Should have monitoring of following parameters:							
		- Airway pressure: Peak, Mean, **Plateau,** PEEP .							
	Required	**Peak inspiratory pressure**				Required			
	Required	**Mean airway pressure**				Required			
	Required	**PEEP pressure**				Required			
		- Total PEEP.							
	Required	**Tidal volume**				Required			
		- Tidal volume: Inspired, Expired.							
	Required	**Minute volume**				Required			
		- Minute volume: Inspired, Expired.							
	Required	**Spontaneous minute volume**				Required			
		- O2 concentration.							
	Required	**FiO2 (analyzed %)**				Required			
	Required	**Respiratory rate**				Required			
		- Total breath rate.							
	Required	**Inspiratory time**				Required			
	Required	**Expiratory time**				Required			
		- End expiratory flow.							
		- Compliance: Static, Dynamic.							
		- Resistance:Inspiratory,Expiratory.							
		- Work of breathing: Patient, Ventilator							
		- Time constant							
		- Elastance of lung.							
	Required	**IE ratio**				Required			
	Specify	**Others**				Specify			
	ALARMS :								
		All alarms audible and visible							
		Audible and visual alarms should activate when their specific monitored parameter reaches and remains at the set limit to activate the alarm.							
		Audible alarms should be distinct and easily identified.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		If the alarm volume is adjustable, it should not be possible to turn the volume down so low that it is not likely to be heard.							
		Although an audible-alarm silence is acceptable, the alarm must recur automatically if the condition is not corrected.							
		If an alarm is silenced, a visual display should clearly indicate which alarm is disabled.							
		Visual alarms should be easy to identify.							
		The visual alarm must be specific to the problem and remain on until the alarm condition is corrected; it should not be possible to turn off the visual alarm.							
		All alarms should be fully explained in the operator's manual.							
		Should have trending facility for facility for 1 week or more .							
	Alarm limits (adjustable)								
		Low/high pressure limit							
		Low O2							
		Low/high PEEP / CPAP pressure							
		Low tidal volume							
		Low minute volume							
		Low/high respiratory rate							
		O2 Concentration : 18-100 %							
		Apnea: 20-40 sec.							
	PATIENT ALARMS :								
		Should have following audio – visual alarms:							
		- Airway pressure							
		- High continuous pressure							
		- FiO2							
	Required	**Low/high FiO2**				Required			
		- Expired minute volume							
	Required	**Low minute volume** **(Low Minute Ventilation: Disabled; 1 to 99 L/min)**				Required			
	Required	**High minute volume**				Required			
	Required	**Low inspiratory pressure**				Required			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Low pressure (Disabled;0 to 40 cm H2O)				Required			
		Low pressure (Delay 0 to 60 sec)				Required			
	Required	**High pressure (5 to 60 cm H2O)**				Required			
	Required	**Loss of PEEP**				Required			
		- Apnea							
	Required	**Apnea (Disabled; 20 to 40 sec)**				Required			
	Required	**Continuous high pressure/occlusion**				Required			
	Required	**Inverse IE ratio**				Required			
		- Respiratory rate							
		Low rate (4 to 120 BPM)				Required			
	Required	**High respiratory rate (4 to 120 BPM)**				Required			
		- End expiratory pressure							
	Required	**High PEEP**				Required			
	Required	**Breathing circuit disconnect**				Required			
	Specify	**Others**				Specify			
	EQUIPMENT ALARMS :								
		All alarms: audible and visible							
		- Gas failure							
	Required	**Gas supply failure**				Required			
		- Battery and Power failure							
	Required	**Power failure**				Required			
	Required	**Vent inoperative**				Required			
	Required	**Low battery**				Required			
		Disconnection							
		Flow sensor alarms							
	Required	**Self-diagnostics**				Required			
	Specify	**Others**				Specify			
	MISCELLANEOUS INFORMATION :								
	Output ports type (Number) :	RS-232 (1), VGA connector (1), Nurse call connector, USB (1/2), Ethernet							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Standby function	Digital port interface RS 232							
		1 temperature probe 1 Kit of adults hoses for humidifir							
		Automatic gas switch-over if oxygen pressure decreases							
	Preferred	**Remote alarm/display port :**				Preferred			
	Required	**Reporting (vent alarms and patient status) :**				Required			
	Required	**View reports on display :**				Required			
	Required	**Sends reports to printer :**				Required			
	Required	**Save data to USB :**				Required			
	Required	**Send data via network :**				Required			
	PATIENT TRANSPORT CAPABILITY (Please Specify)								
	Specify	**Optional equipment required for patient transport :**				Specify			
	Specify	**Hand-carried during transport :**				Specify			
	ON-BOARD AIR COMPRESSOR OR TURBINE								
		Specify AIR COMPRESSOR OR TURBINE with Specification							
		The machine can be Operated by both central gase supply Or air comprasor or O2 cylinder.							
	Inlet gas supply pressure (Air/O2)	(30-80) PSI							
		The Air compressor Built in							
		Should be supplied with DIN probe connector for Oxygen with flexible hose , intended for use with respiratory, equipment.							
		The delivered oxygen or oxygen/air mixture shall be monitored with an oxygen analyzer that includes an alarm for concentrations outside of acceptable ranges.							
		Better The analyzer shall be included within the ventilator (Pramagntic O2 cell) , but if O2 sensor separately and placed in line with the breathing circuit , shell be supplied with 3 - 4 spare O2 sensors (Gelvanic O2 cell 7000 Hr)							
		The delivered oxygen or oxygen/air mixture shall be heated and humidified with an add-on-heated humidifier.							
	Compressor for ventilato	Medical type, high quality and heavy duty							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Original and compatible with the ventilator							
		Water and oil free							
		Low noise (> 60 dB)							
		Automatic compressor backup system .(Air compressor will switch on automatically when inlet pressure is failed)							
		Easy accessible							
	Maximum period time of operation of the device on the patient continuously per day	Specify							
	Power Supply								
	Power Source :	AC / battery				AC / battery			
		Power requirement: 220 V/50 / 60 HZ.							
	Power supply	240 V ~ ±10%, 50/60 Hz Single phase Electrical Safety class 1							
	LINE POWER, VAC :	**100-240, 50/60 Hz**			100-240, 50/60 Hz				
		Internal rechargeable battery							
	INTERNAL BACK-UP BATTERY								
	Internal back-up battery	**Operating time, hr : ≥2**							
		Internal battery operation at least 3 hr or more							
		Should have built-in battery back-up for 60 min							
	Type (number) :	1 or more							
	Operating time, hr :	1.5 or more							
	Rechargeable :	Required							
	Recharging time, hr :	Specify							
		Better supplied with external battery and automatic charging for internal and external batteries							
	Self diagnostic error /	**Included**							
	Accessories, spares and consumables								
		Supplied With Complete Accessories.							
		Ventilator mobile trolley							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Trolley (Cart) with Each unit.							
		Patient Circuit (Adult, Pediatric & Infant) REUSABLE with Each unit.							
		Reusable autoclavable silicone breathing sets for adult & other one pediatric incluing water trap bacterial filter, and disposable autoclavable breathing sets (10 pcs for for adult & others for pediatric incluing water trap bacterial filter)							
		1x Reusable autoclavable silicone breathing circuit for adult.							
		1x disposable breathing circuit for Pedataric.							
		1x disposable breathing circuit for Neonate							
		1x O2 cell							
		1 X Oxygen Regulator one gauge with fixed bar between 4-5 bar							
		1 O2 cylinder and medical pressure pre-set regulator.							
		1x DIN probe connector for Oxygen with flexible hose , intended for use with respiratory, equipment.							
		Circuit Support Arm with Each unit.							
		Flow Sensor with Each unit.							
		Heated Humidifier with Accessories with Each unit.							
		Type of Neubilizer : built in							
		Nebulizer Kit with Accessories with Each unit.							
		Should be supplied with suitable heated humidifier & Nebulizer for effective uninterrupted nebulisation during mechanical ventilation without needing to compensate for additional flow.							
		Test lung for adult & pediatric applications							
		Lung Test 3 diff size with Each unit.							
		Set of spare fuses, if applicable with Each unit.							
		Operation manual serves manual							
		Service manual {Hardcopy & Softcopy} with Echo unit.							
		Operation manual {Hardcopy & Softcopy} with Echo unit.							
		Spare parts list with code NO with Each unit.							
		Application software and interface connection Included with Each unit.							
		Support arm for patient hoses							
	Estimated life-span of th	10 years							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Installation & Commissioning :								
		Installation & Commissioning must be done by manufacturer engineer							
	Warranty/After Sale Service	Two Years or more comprehensive onsite warranty of entire system (Spares and labor)							
		3 Years warranty with spear parts from the date of installation and commissioning if the CE marked or 2 Years waranty with spear parts from the date of installation and commissioning if FDA Certificate							
		Technical Data Sheet must accompany the offers							
		User /Nurses training, by Specialist from the Supplier.							
	Note:	**Note:**							
		All equipment needing consumables must allow the possibility to use generic and/or locally made consumables and/or disposables. Compliance to this condition must be declared here by the bidders.							
		The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.							
	Training								
		Service Training for MWC Bio-Engineer in country of origin							
		Service Training for one MWC Bio-Engineer shall be provided within the first year of warranty							
		User /Nurses training, by Specialist from the Supplier.							
	Essential requirement:								
		Certification from the manufacturer:							
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model offered.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
		Final operating test by manufacturer							
	Maintenance:	**preferred less maintenance needed.**							
		2 years free maintenance by Bio medical Engineer of manufacturer's agent.							
		3 years free maintenace, including **PM Kit.**							
		Service manual operation manual {Hardcopy & Softcopy}							
		application software and interface connection Included.							
		spare parts list with code NO							
		Including maintenance and calibration tools.							
	PREVENTIVE MAINTENANCE	Required							
	Recommended frequency	**Annually**							
	Other specification	Please specify other specification							
مواصفات جهاز تنفس صناعي محمول مناسب للرنين المغناطيسي					0				
NO	**MRI Compatable Transport Ventilator For Adult, Pediatric & Infant**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER where**	**Supplier's Confirmation/ Remarks**	

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
1	**APPLICATION**	Adult, Pediatric & Neonatal							
2	**Type**	Transport							
3	**MRI compatible Up to 3 Tesla**	**Yes 10 CM FROM THE CORE**							
4	VENTILATION MODE	**CMV, PEEP, CPAP, Other Specify**							
5	Tidal Volume	**0 - 2000 ml or wider**							
6	Ventilation Rate	**0 - 60 per minute or wider**							
7	**Inspiratory time range**	**Specify**							
8	**Expiratory time range**	**Specify**							
9	**Expiratory flow range**	**Specify**							
10	**Pressure relief range**	**Specify**							
11	**Air way pressure indication**	**Either, mechanically gauge or digital display**							
12	**Single circuit patient Disp.**	**Yes, other specify , 50 set to be included with each unit**							
13	**AIR OXYGEN BLENDER, MRI COMPATIBLE**	**built-in**							
14	**FiO2 Percent**	**21 - 100 %**							
15	**PNEUMATIC POWERED**	**Yes, O2 & Medical air**							
16	**UNIT WEIGHT , KG, LBS.**	**Specify**							
17	**ACCESSORIES**								
18	**Yes**	**Pole mount with cylinder bracket MRI Compatible**				Yes			
19	**Yes, Qty. 1**	**E cylinder regulator oxygen, MRI compatible.**				Yes, Qty. 1			
20	**Yes, Qty. 1**	**E cylinder regulator medical Air MRI compatible.**				Yes, Qty. 1			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
21	Yes	PMG Hose with female connection compatible with Hospital gases for oxygen and medical.				Yes			
22	Yes, Qty. 3	Aluminium E cylinder oxygen				Yes, Qty. 3			
23	Yes, Qty. 3	Aluminium E cylinder air				Yes, Qty. 3			
24	OTHER SPECIFICATIONS	Approved by FDA, CE, ISO							
مواصفات جهاز تنفس صناعي محمول مع المراقبة					0				
NO	Transport Ventilator For Adult, Pediatric & Infant W Monitor				0				
	Standard	Requirements			Specified	Yes/No	Catalogue/Brochure PAGE NUMBER where	Supplier's Confirmation/ Remarks	
1	Monitor included	Yes : For patient vital Parameters							
2	Parameters	ECG , Resp , NIBP , 2x IBP , TEMP , SPO2							
3	SPO2	Masimo or Nellcor Oxi-max (must comply with Sector Supplies Standard)							
4	Temp	Yes							
5	Waveform	3 - 5 Wavforms							
6	Screen Size	>=12"							
7	Monitor Type	Ventilation parameters and Patient Vital Signs displayed on Same Monitor							
8	Ventilator								
9	Configuration	Adult, Pediatric , Neonatal							
10	Tidal volume, L	2-2000 mL							
11	Breath rate, br/min	0 - 80							
12	Inspiratory time, sec	0.2 - 3 Sec							
13	Inspiratory flow, L/min	3 - 100 L/Min, specify							
14	Pressure level, cm H2O	Specify							
15	Pressure ramp	Specify							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
16	**Pressure support**	**0 - 50**							
17	**Trigger Mechanism**	**Flow or pressure or both, Specify.**							
18	**Sensitivity, cm H2O**	**Flow or pressure trigger, specify**							
19	**FiO2, Percentage**	**21-100 %**							
20	**I:E ratio**	**1:9 TO 4:1**							
21	**Adjustable PEEP**	**0 - 40 cm H2O/ higher**							
22	**OPERATING MODES**								
23		**Assist / Control Mode**				Yes			
24		**Volume Mode**				Yes			
25		**Pressure Mode**				Yes			
26		**Spontaneous / CPAP Mode**				Yes			
27		**SIMV Mode**				Yes			
28		**MONITOR PARAMETERS**							
29		**Pressure, PA , MAP, PEEP.**				Yes			
30		**Volume, Tidal, Minute**				Yes			
31		**Inspiratory / Expiratory Time**				Yes			
32		**I:E Ratio**				Yes			
33		**Respiratory Rate**				Yes			
34	PATIENT ALARMS	**PATIENT ALARMS**							
35		**FiO2, Low/High minute volume, Low inspiratory pressure, High pressure, Loss of PEEP, Apnea, Inverse IE, High continuous pressure occlusion, High respiratory rate, Others.**				All			
36	EQUIPMENT ALARMS	**EQUIPMENT ALARMS**							
37		**Gas-supply failure, Power failure, Vent inoperative, Low battery, Self Diagnostic, Others.**				All			
38	Silence	**2 minutes**				2 minutes			
39	CONTROL TYPES	**Dial, soft keys, toggle switch**							
40	**Breathing circuit Adult &**	**3 set (Option)**							
41	**Air Comp /Turbine as Air Backup Source**					YES, Specify			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
42	BATTERY WITH CHARGER	Built-in, operational hours on Battery >= 6hrs							
43	Weight of (Ventilator + Monitor)	<=12KG							
44	OTHER SPECIFICATI(	FDA, CE, ISO Approved.							
45	plug type	british							
46	mobile cart	required , 4-5 castors with basket							
47	certifications	approved regulatory body							
48	circuit	100 each included with the unit							
مواصفات جهاز مراقبة العلامات الحيوية					0				
NO	Patients Monitor				0				
	Standard	Requirements			Specified	Yes/No	Catalogue/Brochure PAGE NUMBER	Supplier's Confirmation/ Remarks	
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model number	Please specify model number							
3	Safety standard	FDA Approval or CE marking Product circulation certificate in Europe and the United States of America							
	CU - 3	I.C.U Patient Monitor							
		Suitable for intensive care patient							
		Monitor for continuous monitoring of critical patients and suitable for Adult & Pediatrics							
4	Design & quality								
4.1		Modular, use separate parameter modules or composite module with facility removing any parameter will not affect the others							
4.2		patient type: adult, pediatric, neonate							
4.3		High quality							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
4.4		Wall mounted fixing							
		Bed-mount bracket/ attachment							
		Battery charger must be built-in the monitor							
		Bilud in thermal printer							
		Future upgradeable / expandable							
4.5		Upgradeable by software and hardware							
		Multi-lead ECG, respiration, NIBP, SpO2, temperature IBP minimum 1 port & 2 is preferred							
		Built-in multi channel recording facility of real time and delayed waveforms, vital signs and arrhythmia's							
5	**Display size and type**								
5.2		High resolution multi-color display							
		Large high resolution LCD color display 12 "							
		Min 6 channels, display of monitored waveforms & parameters							
		Large high resolution TFT LCD color display 10 " (not less 10 ")							
		Min 8, display of monitored waveforms & parameters							
5.1		17" min.							
5.3		Medical type (preferable) or supported with isolation transformer							
6	**Displayed information**								
6.1		Min. 6 vital waveforms, cab be colored separately							
6.2		Numeric data for the measured vital parameters							
6.3		Vital parameters (24) hrs trends							
6.4		Vital parameters alarms audio visual							
		Vital signs alarm limits & audible alerts for all monitored parameters							
		Trend analysis, tabular & graphic display / recording for at least one week (168 hrs) or more							
		Trend analysis, tabular & graphic display / recording for at least 24 hrs or more							
7	**Defibrillation protection**	Available for the measured vital parameters							
8	**Required vital parameters:**								
		Vital signs alarm limits & audible alerts for all monitored parameters							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		ECG/ Resp							
		HR range 20-350 BPM							
		acuracy : ±1% or 1pbm							
8.1-	**ECG:**								
		ECG 12 lead/ Resp							
8.1-1	Leads	12 leads facility							
8.1-2	Values	ECG lead waveform, label, HR gain as min.							
8.1-3	HR range	30-200 bpm							
8.1-4	Alarms	Leads off, Hi + Low HR							
8.1-5	Gain	5, 10, 20 mm/mV							
8.1-6	Preferable items	ST, Arrhythmia, cascade ECG							
8.2-	**Respiration:**								
8.2-1	Technology	Impedance							
8.2-2	Values	Respiration waveform, R.R.							
8.2-3	R.R. range	5-80 bpm							
8.2-4	Alarms	Hi & low R.R.							
8.2-5	Apnea alarm	15-25 sec. Preferable							
8.3-	**NIBP:**								
		NIBP							
		NIBP							
		Range 20-250 mmHg.							
		acuracy : ±5% mmhg							
8.3-1	Technology	Oscillometric							
8.3-2	Values	SYS , DIA , MEAN , P.R.							
		Invasive Pressure (option)							
8.3-3	Modes	Auto, Manual							
8.3-4	Cuff pressure range								
8.3-4-1		Up to 250mmHg Adult							
8.3-4-2		Up to 200mmHg Pediatric							
8.3-4-3		Up to 150mmHg Neonate							
8.3-4-4	Alarms	Hi and low, SYS, DIA							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
8.4	**SPO2**								
		SpO2							
		SpO2							
		SpO2 Range – 1-100%							
		acuracy : ±3% or 3pbm							
8.4-1	Values	SPO2 waveform, SPO2% , P.R.							
8.4-2	SPO2 range	50 - 100 %							
8.4-3	Pulse rate range	25-200ppm							
8.4-4	Alarms	Hi & low SPO2 + P.R. sensor off							
8.5	**Temperature:**								
		Temp (rectal/ skin)							
		Temp (rectal/ skin)							
		Temp. Range – 0- 50 Deg C.							
		acuracy : ±1% or 1pbm							
8.5-1	Values	T1 and or T2							
8.5-2	Range	30-45°C							
8.5-3	Alarm	Hi & low							
9	**Required accessories:**								
		Supplied With:							
		Complete with all accessories, cables, sensors for Adult & Pediatrics use , Cuff for Adult & Pediatrics use and wall mounting holder							
		One Year Recommended Spare parts							
9.1		10 Leads wire ECG cable Adult & Pediatric							
		1x ECG Module (ECG Patient Cable Banana plug)							
		2x NIBP Cuff (adult/infant)							
9.2		NIBP reusable cuff large Adult							
9.3		NIBP reusable cuff Adult & pediatric							
9.4		NIBP connection hoses							
		2x SpO2 probes (adult/infant)							
9.5		SPO2 reusable finger probe + Extension cable adult and pediatric							
		2x Temp sensors							
9.6		Temperature reusable sensor skin type							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9.7		Original wall mount stand							
		2x set Suction electrode (adult/infant)							
		Recorder paper rolls (10 per module)							
		1x Rechargable battery							
		1x Stainless steel wall mounting for patient monitor							
		1x Operation manual							
		1x Service manual							
		3x Fuse							
10	**Priced spare part list**	Please price separately as spare parts the following:							
10.1		Display							
10.2		Operation panel							
10.3		ECG model or board							
10.4		NIBP module or board							
10.5		NIBP pump							
10.6		SPO2 module or board							
10.7		Temperature module or board							
10.8		ECG cable							
10.9		NIBP cuffs							
10.10		NIBP hoses							
10.11		SPO2 adult probe							
10.12		SPO2 pediatric probe							
10.13		Extensions SPO2							
10.14		Temperature probe							
10.15		Power supply							
11	**Certification from the manufacturer:**								
11.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
11.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
11.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
11.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
11.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
11.7		Final operating test by manufacturer							
11.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
11.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
12	**Maintenance:**								
12.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
		Service/ maintenance and technical documents inclusive of schematics, component diagrams, trouble shooting and voltage/ wave form checks, diagnostics/ error codes and their interpretations, spare parts ordering information etc.							
		Recommended spare parts list with prices & validity must be provided with the offer (mandatory)							
12.2		Service manual operation manual {Hardcopy & Softcopy}							
		Service manual							
		Operation manual							
		Technical Data Sheet must accompany the offers							
12.3		application software and interface connection Included.							
12.4		spare parts list with code NO							
12.5		Including maintenance and calibration tools.							
13	**Training**	Service Training for one MWC Bio-Engineer shall be provided within the first year of warra							
		User /Nurses training, by Specialist from the Supplier.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
14	**Power supply**	100 to 240 V ±10%, 50 Hz, (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1.							
		Mains power 220- 240V ±6% , 50 Hz							
		Mains power 220- 240V ±6% , 50 Hz British Standard 3 Pin Power Plug / Cable							
		Battery backup should be at least 3-4 hours or more .							
		Battery backup should be at least 3-4 hours							
		Installation & Commissioning :							
		3 Years warranty with spear parts from the date of installation and commissioning if the CE marked or 2 Years waranty with spear parts from the date of installation and commissioning if FDA Certificate							
		The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.							
15	**Other specification**	Please specify other specification							
مواصفات جهاز مراقبة العلامات الحيوية منقول					0				
NO	**Transport Monitor for Adult, Pediatric & Neonate**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER**	**Supplier's Confirmation/ Remarks**	
	IC-2	**12 inch Transport Monitor for Adult, Pediatric & Neonate**	**2**						
		Monitor for continuous monitoring of critical patients during transport between various units.							
		Battery backup should be at least 3-4 hours							
		Large high resolution LCD color display 12 "							
		Min 6 channels, display of monitored waveforms & parameters							
	Parameter modules:	**Parameter modules:**							
		ECG/ Resp							
		HR range 20-350 BPM							
		acuracy : ±1% or 1pbm							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		NIBP							
		Range 20-250 mmHg.							
		acuracy : ±5% mmhg							
		SpO2							
		SpO2 Range – 1-100%							
		acuracy : ±3% or 3pbm							
		Temp (rectal/ skin)							
		Temp. Range – 0- 50 Deg C.							
		acuracy : ±1% or 1pbm							
		Vital signs alarm limits & audible alerts for all monitored parameters							
		Trend analysis, tabular & graphic display / recording for at least 24 hrs or more							
		Built-in multi channel recording facility of real time and delayed waveforms, vital signs and arrhythmia's							
		Bed-mount bracket/ attachment							
		Future upgradeable / expandable							
		Bilud in thermal printer							
	Standard:	**Standard:**							
		Mains power 220- 240V ±6% , 50 Hz British Standard 3 Pin Power Plug / Cable							
	ACCESSORIES	**ACCESSORIES**							
		1x ECG Module (ECG Patient Cable Banana plug)							
		2x NIBP Cuff (adult/infant)							
		2x SpO2 probes (adult/infant)							
		2x Temp sensors							
		2x set Suction electrode (adult/infant)							
		Recorder paper rolls (10 per module)							
		1x Rechargable battery							
		1x Stainless steel wall mounting for patient monitor							
		1x Operation manual							
		1x Service manual							
		3x Fuse							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	CONFIGURATION	Configured							
	STANDARD PARAMETERS FOR MONITOR								
		Multi-lead ECG, respiration, NIBP, SpO2, temperature IBP minimum 1 port & 2 is preferred							
	ECG	Yes							
	- Number of leads	3, 5							
	- HR range, bpm	30 - 300							
	- Max lead displayed / Sim	up to 4 / Specify							
	- Alarm	Yes							
	- Interpretation	Specify							
	Arrhythmia detect	Specify							
	- No. of leads analyzed	3							
	RESPIRATION	Yes							
	- Method	Specify							
	- Waveform display	Yes							
	- Threshold control	Yes							
	NIBP	Yes							
	- Measurement technique	Osillometric							
	- Cuff Inflation Adjustment Range for Adult/Pediatric	Automatic							
	- Cuff Pressure Range for Adult/Pediatric	0 to 300 mmHg							
	Determination Time	20 - 40 sec							
	Pressure Reset Levels	Resolutions of 5 mmHg upto maximum limits							
	Systolic Determination	Max:300 mmHg; Min:30 mmHg							
	Diastolic Determination	Max:195mmHg; Min :10 mmHg							
	Map Determination (Medium Arterial Pressure	Max:215 mmHg;Min :15 mmHg							
	Pulse Rate Range	30 - 200 BPM							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Over Pressure Cut off	300 - 330 mmHg							
	PULSE OXIMETRY	Yes							
	- Accuracy	1 Standard deviation							
	-Adult/ Pediatric	70 - 100 % 3.0 digits; under 70%							
	- Saturation range	0 - 100%							
	- Pulse rate range	20 - 250 bpm							
	PROBE TYPES	Specify probe type. Disposable/reusable							
	Patient range	Adult / Neonate/ Pediatric							
	Cable length, m	Not less than 2.5							
	TEMPERATURE	Yes							
	- No.of inputs	1							
	- Probe type	Oral, axillary, rectal							
	ALARMS & TRENDING								
	ALARMS	Yes							
	- Systolic	Preset at 30 mmHg low and 180 mmHg High							
	- Diastolic	Preset at 15 mmHg low and 130 mmHg High							
	Silence active alarm	Yes							
	TRENDING	Monitor stores 24 hrs of data; up to 100 reading within time period							
	-Parameters	All							
	-Graphical/tubular	Yes							
	BATTERY	Yes, Built in with integrated charger							
	- Operating time	Not less than 2.5 Hrs							
	- Low battery alarm	Yes							
	PRINTER/RECORDER	Yes, Specify the paper type							
	PHYSICAL SPECIFICATIONS								
	Dimensions	Specify							
	Weight	Specify							
	UNIT COMPLETE WITH	ALL THE ACCESSORIES SHOULD BE SUPPLY AS PER PARAMETERS							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	IMPORTANT NOTE	Please specify whether accessories are standard or optional, otherwise they will be considered standard							
	- All sizes cuff for Adult					Yes			
	- All sizes cuff for Pediatric & neonate					Yes			
	- Spo2 probe/adult (reusable & disposable)					Yes			
	- Spo2 probe/pedia and neonate (reusable & disposable)					Yes			
	- Temperature probes	Yes				Yes			
	- Paper roll	1 box				1 box			
	Reusable &Disposable ECG electrodes					Yes			
	LATEST MODEL TO BE INSTALLED AS PER THE AVAILABILTIY FROM MANUFACTURER					Yes			
	INSTALLATION & PRE	Yes, attach separate scope with details			Yes, attach separate scope with details				
	HIS compatible	Yes / Specify							
	LINE POWER	Single Phase							
	VAC	220 V							
	CURRENT	13 A							
	FREQUENCY	60 Hz.							
	PLUG TYPE	3 Pin British							
	UNIT COMPLETE WITH FULL ACCESSORIES					Yes			
مواصفات جهاز مراقبة العلامات الحيوية محمول مناسب للرنين المغناطيسي					0				
NO	**MRI Compatable Transport Monitor For Adult, Pediatric & Infant**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER**	**Supplier's Confirmation/ Remarks**	
1	APPLICATION	Adult, Pediatric and Neonatal							
2	Type	Modular or Pre-configured							
3		MRI Compatible up to 3 Tesla							
4	PARAMETERS MEASURED								
5	ECG 3-5 Leads	Yes							
6	Heart Rate	30 to 300 Beats per minutes							
7	NIBP	Yes							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
8	SPO2	Yes							
9	2 x IBP	Yes, specify							
10	Respiration	Yes							
11	SCREEN								
12	Size, inch	10?, approximate							
13	Type, Color, LCD, TFT	Specify							
14	Channel	6 Channels OR MORE							
15	OPTIONAL PARAMETERS								
16	Temperature	Specify principle of measurement							
17	Data Recorder	Yes							
18	TRENDING (MEMORY)								
19	Parameters	Specify							
20	Graphical/Tabular	Specify							
21	Length of time, hr.	Specify							
22	DATA TRANSFER TO CONTROL ROOM	Specify							
23	Remote Control	Yes							
24	External Screen or PC	Specify							
25	ACCESSORIES								
26	ECG	Yes							
27	SPO2	Fiber optic SPO2 sensors for adult pediatric & neonatal .							
28	NIBP	Cuff and hose for adult, pediatric & neonatal .							
29	Gases measurement access	Yes, for six months consumption.							
30	Yes WITH STAND	Pole mount bracket on 5 wheels MRI compatible.			Yes WITH STAND				
31	220 V, 60 Hz	POWER REQUIREMENT				220 V, 60 Hz			
32	Not less than 60 min.	Battery built-in operation time.			Not less than 60 min.				
33	OTHER SPECIFICATION	Approved by FDA, CE, ISO			Approved by FDA, CE, ISO				
مواصفات جهاز الضخ الوريدي عبر انبوب حاقن					0				
NO	Syringe Pump				0				

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER**	**Supplier's Confirmation/ Remarks**	
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
		The product offered should be US FDA/European CE approved with certificate to be submitted.							
	CU - 6	**Syringe Pump W/ holder**							
4	**Design and quality**	Compact , heavy duty and high quality							
5	**Syring Pump**	Permits the use of standard disposable Syringes (sizes 10 – 60 ml) and extension sets, with auto syringe size sensing.							
		The syringe pump should be programmable, user friendly, safe to use and should have battery backup and comprehensive alarm system.							
		Must Work on commonly available standard 5ml/10ml/20ml/50ml/60 ml Syringes with accuracy of minimum of +/- 2% or better, with automatic syringe size recognition.							
		Keep Vein Open (KVO) must be available at 0.1 ml or set rate.							
6	**Infusion volume**	0.1 to 999 ml in 0.1ml increments in lower ranges							
		Infusion volume 0.1 to 999 ml in 0.1ml increments in lower ranges							
7	**Infusion rate adjustable**	from 0.1 – 99.9 ml/hr in (0.1ml/hr steps)							
		Infusion rate adjustable from 0.1 – 99.9 ml/hr in (0.1ml/hr steps)							
8	**System and malfunction**	alarms with visual and audible alarm indicators							
		System and malfunction alarms with visual and audible alarm indicators							
9	**display**								
9.1		Digital display or better of volume infused. Infusion rate, alarm prompts etc.							
9.2		Purge/ bolus facility							
9.3		Volumetric accuracy ± 2% or less							
9.4		Occlusion Pressure limit (from 0 to 750 mmHg)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9.5		Built-in self test and diagnostics							
		SAVE last infusion rate even when the AC power is switched OFF.							
		Should have comprehensive Audible and visual ALARM package including: Occlusion limit exceed alarm. Near end of infusion pre-alarm & alarm, volume limit pre-alarm & alarm, KVO rate flow, Low battery pre- alarm and alarm, AC power failure and Drive disengaged alarm.							
	Supplied with complete Accessories :								
		IV pole							
		Should be including with IV pole.							
		User Manual and service manual in English.							
		Service manual							
		Operation manual							
10	**Optional**	Price for Dual Syringe facility to be included							
		Price for Dual Syringe facility to be included as OPTIONAL							
12	**All-in-one type**	Syringe and Infusion Pump - (open system) should be offered as OPTIONAL							
		Type Syringe Pump - (open system) should be offered as OPTIONAL							
11	**Battery**	pickup ≥ 120 minute							
		BatteryBackup ≥ 3 HR							
		Battery pickup ≥ 60 minute							
		Rechargeable Battery NiMH type							
		Should have rechargeable NiMH type							
13	**Model release date**	latest version							
14	**Product Information:**								
14.1		DPS (dynamic pressure sensor)							
14.2		Special feature of the product (other than mentioned on list)							
14.3		Accessories if any (to put machine/ system into operation)							
14.4		Consumable if any (to put machine/ system into operation)							
15	**Installation & Commissi**	**Installation & Commissioning :**							
15.1		Installation & Commissioning must be done by manufacturer engineer							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		2 Years comprehensive warranty, from the date of installation and commissioning							
15.2		User /Nurses training, by Specialist from the Suplier.							
15.3	**Training**	Service Training for one MWC Bio-Engineer shall be provided within the first year of warranty							
16	**Certification from the manufacturer:**								
16.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
16.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
16.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
16.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
16.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
16.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
16.7		Final operating test by manufacturer							
16.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
16.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
17	**Maintenance:**								
17.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
		Service/ maintenance and technical documents inclusive of schematics, component diagrams, trouble shooting and voltage/ wave form checks, diagnostics/ error codes and their interpretations, spare parts ordering information etc.							
17.2		Service manual operation manual {Hardcopy & Softcopy}							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
17.3		application software and interface connection Included.							
17.4		spare parts list with code NO							
		Recommended spare parts list with prices & validity must be provided with the offer							
17.5		Including maintenance and calibration tools.							
18	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
		Standard:							
		Mains power 220- 240V ±6% , 50 Hz							
		Mains power 220- 240V ±6% , 50 Hz British Standard 3 Pin Power Plug / Cable							
19	**Other specification**	Please specify other specification							
مواصفات جهاز مضخة السوائل والمحاليل الوريدية					0				
NO	**VOLUMETRIC INFUSION PUMP**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER**	**Supplier's Confirmation/ Remarks**	
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
		The product offered should be US FDA/European CE approved with certificate to be submitted.							
4	**Design and quality**	Compact , heavy duty and high quality							
	Mode	Macro mode : 1-999 ml/hr in 1ml./hr increment							
		Micro mode: 0.1-99.9 ml/hr in 0.1 ml/hr increment							
6	**Volume to be infused**	1.0 – 999.9 ml or No limit							
		The Volume Controlled peristaltic Infusion Pump having at least following major specifications:							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Volume to be infused 1.0 – 999.9 ml or No limit							
		Infusion Time: 1 ~ 96 hours in increment of 1 minute.							
7	**Infusion Set used with the system**	should (open system) the user can use any infusion set							
		Infusion Set used with the system should (open system) and the user can use any infusion set							
		Should be compatible with all standard IV Sets.							
		Presettable rate							
8	**Infusion accuracy**								
		Infusion accuracy not >±2%							
8.1		Presettable rate							
8.2		not >±2%							
9	**Secondary function**								
		Should have Keep Vein Open (KVO) function on completion with least volume : minimum 3 ml/hour or adjustable.							
9.1		Free flow protection							
9.2		Front panel key pad lock							
9.3		Built-in self test and diagnostic							
9.4		System and malfunction alarms with audible and visual alarm indicators							
9.5		Silence or reset of audio alarms							
9.6		Air line detect system							
10	**Message display for infusion status**	alarms, error messages etc.							
		Message display for infusion status, alarms, error messages etc.							
11	**Battery pickup**	≥ 120 minute							
		Should have rechargeable NiMH type							
		Battery pickup ≥ 60 minute							
		Battery backup ≥ 3 HR							
12	**Special function:**	**Special function:**							
12.1		Automatic flow rate calculation							
12.2		Drug calculation & drug dose programs							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
12.3		Multi-dose capability							
12.4		Rate-volume and volume timer programming							
		Supplied With Spare Infusion Set For Adult & Pediatric. (each) 500 Set							
	Accessories :	**Supplied with complete Accessories :**							
		IV pole							
		User Manual and service manual in English.							
		Rechargeable Battery NiMH type							
13	**Standard:**								
		Service manual							
13.1		Operation manual							
13.2		Service/ maintenance and technical documents inclusive of schematics, component diagrams, trouble shooting and voltage/ wave form checks, diagnostics/ error codes and their interpretations, spare parts ordering information etc.							
13.3		Recommended spare parts list with prices & validity must be provided with the offer							
13.4		Supplied With Spare Infusion Set For Adult & Pediatric. (each) 500 Set							
14	**Installation & Commissioning**								
14.1		must be done by manufacturer engineer							
		2 Years comprehensive warranty, from the date of installation and commissioning							
14.2		User / Nurses training, by Specialist from the Suplier.							
14.3		Service Training for one MWC Bio-Engineer shall be provided within the first year of warranty							
15	**Product Information:**								
15.1		Model release date/ latest version							
15.2		Origin of the product							
15.3		Special feature of the product (other than mentioned on list)							
15.4		Accessories if any (to put machine/ system into operation)							
15.5		Consumable if any (to put machine/ system into operation)							
16	**Certification from the manufacturer:**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
16.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
16.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
16.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
16.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
16.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
16.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
16.7		Final operating test by manufacturer							
16.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
16.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
17	**Maintenance:**								
17.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
17.2		Service manual operation manual {Hardcopy & Softcopy}							
17.3		application software and interface connection Included.							
17.4		spare parts list with code NO							
17.5		Including maintenance and calibration tools.							
18	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
		Mains power 220- 240V ±6% , 50 Hz							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Mains power 220- 240V ±6% , 50 Hz British Standard 3 Pin Power Plug / Cable							
19	**Other specification**	Please specify other specification							
مواصفات جهاز مضخة السوائل والمحاليل الوريدية محمول مناسب للرنين المغناطيسي					0				
NO	**MRI Compatable Transport VOLUMETRIC INFUSION PUMP For Adult, Pediatric & Infant**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER where**	**Supplier's Confirmation/ Remarks**	
1		**Single channel IV volumetric infusion pump MRI compatible for use during MRI examination to all patient populations (adult, pediatric and neonates)**							
2		**Made of materials compatible with MRI up to 3 Tesla, bidder to specify**							
3		**Microprocessor controlled, easy to use, with large, digital LCD alphanumeric display of parameters and alarms**							
4		**Variable rate ranging from**							
5		0.1 to 99.9 ml/hr. (or better) in 0.05 mL/hr. increments in micro mode							
6		0.1 to 999.9 ml/hr. (or better) in 1 mL/hr. increments in normal mode							
7		5 % accuracy or better. State whether a dedicated infusion set is required to maintain the specified accuracy range. If open system, state so.							
8		Dose rate calculation							
9		Variable volume-to-be-infused from 1 to 10,000 mL							
10		Variable infusion time from 1 minute to 60 hours or better							
11		Keep Vein Open (KVO) rate 1 to 5 ml/hr. (specify)							
12		Piggyback capability (primary / secondary)							
13		Enteral feeding program							
14		Digitally displayed parameters to include:							
15		Infusion rate							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
16		Volume to be infused							
17		Total infused volume							
18		Remaining / elapsed infusion time							
19		Battery / AC operation							
20		Running indicator							
21		Time to dose							
22		Dose remaining							
23		Reservoir volume							
24		Alarming condition when active, with indication of alarm type or code							
25		Back pressure monitor / indicator. If variable occlusion pressure, specify pressure range and default value							
26		Programming modes shall include but not be limited to:							
27		Normal mode							
28		Micro mode							
29		Ramp up							
30		Ramp down							
31		Primary, secondary and sequential							
32		Bolus							
33		Combinations of above listed modes (list)							
34		Audiovisual alarms shall include but not be limited to the following:							
35		Infusion set installation and integrity							
36		Door open							
37		Air in line							
38		Line disconnection or free flow (sudden drop in back pressure)							
39		Occlusion pressure pre-alarm (upstream and downstream)							
40		Occlusion pressure (upstream and downstream)							
41		Near end of infusion							
42		End of infusion							
43		Empty fluid container							
44		Unlocked container							
45		Low battery pre-alarm							
46		Discharged battery							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
47		Internal malfunction							
48		Other, specify							
49		Data log capability and data port for data transmission, display and printing. Any required software for such function shall be included.							
50		Logged data to include:							
51		Settings							
52		Alarms							
53		Errors							
54		Other (state)							
55		Safety features shall include but not be limited to:							
56		Self test at start-up							
57		Nurse call interfacing capability							
58		Splash proof design							
59		Auto priming							
60		Adjustable alarm volume. No permanent silencing shall be possible.							
61		Keypad lock							
62		Impossibility to improperly install infusion set							
63		Free flow prevention system							
64		Last parameter setting retention							
65		Additional features (if available) shall be listed with their corresponding specs. Features such as:							
66		Preset drug labels							
67		User parameter setting storage memory							
68		Programmable profiles for different patients / areas							
69		Air trapping capability with air accumulation quantity measurement							
70		Other (specify)							
71		IV stand mounting clamp shall be included							
72		Line and rechargeable battery operation							
73		Battery autonomy of 3 hrs. or more when fully charged. Specify:							
74		Battery type and characteristics (voltage and current capacity)							
75		Autonomy at 10 mL/hr.							
76		Recharging time from depleted to 90%							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
77		Compliance with standards & legislation:							
78		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
79		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
80		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
81		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
82		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcomes and output of the equipment must be included.							
مواصفات أسرة العناية المركزة الكهربائية مع البطارية					0				
NO	**Electric I.C.U With Back-up Battery.**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER**	**Supplier's Confirmation/ Remarks**	
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number							
3	**Safety standard**	FDA Approval or CE marking							
50		FDA approved CE marked							
53	**Attach MDMA Certifica**	Yes (Give the MDMA Number)							
1	**TYPE**	Intensive Care Bed/ ICU adult							
3	**Type**	specify							
2	**PATIENT CONTROLS**					YES			
4	**Design & quality**	mobile , Heavy duty designed, new Model & high quality							
		Bed, designed 3 Sectionsl standard wards							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Epoxy-Coated main frame constructed from heavy duty section steel tube							
		Removable Chrome-Plated steel bed ends fitted with 10mm laminated plastic panels							
		5-Section, 2 telescopic columns.							
29	**FUNCTION**	Swivel, brake, steer							
4	**Functions**	Head High/ Low , Knee up / Down, Trendelenburg & Reverse trendelenburg, electrical flexafoot							
14	**TRENDELENBURG GA**	YES							
		Height adjustment : 45 to 85 cm.							
		Trendlenburg & perverse : ± 15.							
		Backrest tilting angle: 70. degree							
		Thigh-rest tilting angle: 45.degree							
		Safe working load: 200 kg.							
		Height adjustment, trendlenburg & reverse-trendlenburg, back-rest, thigh-rest							
		are electrically operated							
		Height adjustment controller.							
		Hand set and back central control units.							
		4 anti-static castors 6” each with central brake system.							
		Height adjustment St/St I.V rod.							
8	**CPR MODE**	Dual sided							
		CPR position where patient surface and all rests are set to lowest position							
9	**CPR control**	YES							
10		graphical caregiver interface with touch screen for bed and mattress functions				YES			
11	**AUTOMATIC CONTOUR**					YES			
12	**CHAIR MODE**	Full Chair & Full Chair front Egress Position							
		Chair position.							
		Activating button to prevent accidental positioning.							
		Plastic side rail.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
6	**Control:**	Control panel buttons & remote control for all bed movement.							
46	**Controls are imbedded within the side rails**								
5	**NURSE CONTROLS**	YES							
6	**Patient control lockout**					YES			
7	**Full low indicator**	YES							
13	**ALARM SYSTEM**	Head angle alarm 30 and 45 degrees, bed Exit alarm, Brake off alarm							
16	**BED SURFACE TYPE**					specify			
		Patient surface : 200 x 85 mm.							
		Surface extension at foot: 10 cm.							
17	**C-ARM APPLICATION**					YES			
18		FRACTURE FRAME RECEPTACLES				YES			
19		ELECTRIC FOOT EXTENDER / RETRACTABLE				Yes / Electrical			
20		DRAINAGE BAG HOLDER				YES			
22	**OVERALL DIMENSIONS**								
23	**L x W, cm**	L210 235x W93 -102 cm approx.							
24	**Height, cm**	45 cm – 92 cm approx							
9	**Dimensions:**	200-215 (L) x .90-100 (W) x 750-1, 150mm (H)							
45	**Dimensions 20cm or more height**	Compatible with bed dimensions							
47	**AUTOMATIC DEFLAT**	Full inflation once CPR mode is pressed							
48	**Max inflate function**	YES							
49	**X-ray Sleeve inside the mattress**								
		X-ray translucent along the full length of the bed.							
		Cassette holder.							
25	**SIDE RAILS LENGTH**								
26	**Fraction of overall lengtl**	YES specify							
27	**CASTERS**								
28	**SIZE (Diameter) cm**	12.5 cm or more specify							
5	**Safety:**	The unit shall be safe to use both for -the operator and the patient.,							
15	**BackUp Function**	Electro-hydraulic or other specify							
7	**Bed Section:**	Four Section Construction Of Bed Frame, Receptacle Holes For I.V. Pole, Safety Sides And Traction Frame Set.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		3 Sections mattress Platform fitted with Epoxy-Coated steel weldmesh							
		Backrest and knee brake adjustable by hydraulic action							
		The bed shall be mounted on 4x125mm (minimum) castors, 2 swivelling with simultaneous brakes							
		movable bed sids,four five- inch castors two of them are totally lockable,adjustable							
8	**Movement:**	Motorized Movements Back Raise, Knee Raise And Hi / Lo, Head & Foot Ends By Steel Frame With Metallic, Coating With Lock Mechanism, Mobile On Castors , With Central Locking Brake System.							
39	**Number of motors**	4 or more specify							
30	**CENTRAL BREAK SYSTEM**					YES			
31	**BUMPERS**	Corner/ Full perimeter			Corner/ Full perimeter				
		Bumpers at all 4 corners							
		Protective pampers.							
		5 protective pampers							
32	**REMOVAL HEADBOARD & FOOTBOARD**					YES			
33	**IV POLE MOUNT**	MINIMUM 3 PROVISIONS			MINIMUM 3 PROVISIONS				
34	**INTEGRATED BED SCALE With patient weight statistics for up to7 days or more**					YES			
40	**GROUNDED**	YES							
41		Isolated (motor ground				YES			
42		Non-Conductive Side rails				YES			
43	**AIR MATTRESS**	Anti-bacterial, Anti-static, Moisture proof, fire resist & chemical-resist, tough & high durable							
44	**INTEGRATED WITH THE BED**					YES			
10	**Lode:**	body Weight 180-200 Kg							
21	**MAX. PATIENT WEIGI**	230 kg or more							
	Supplied with:	**Supplied with:**							
		Bed Side Locker							
		Over bed table							
		all other accessories							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11	**Accessories:**	medical Mattress, 4 sections, IV rod, 4 hooks with adjustable height, Side folding-down rails (pair), Over Head Hand Holder, Holders for urinal and Bedpan, Bed side locker with over bed table, supplied with Complete Accessories.							
		Supplied with:							
		WITH three sections foam. Mattress, 12Cm at least High density, Premium-grade cotton felt and high-density urethane foam are intertufted to eliminate component shifting and to increase mattress life with Durable vinyl cover, anti-bacterial, anti-static, acid-resistant and waterproof for easy use and care							
		IV rod, 2 hooks with adjustable height							
		Side folding-down rails (pair)							
		Guiding Dimentions of bed:200 * 90 * 70 cm							
12	**Certification from the manufacturer:**								
12.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
12.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
12.3		Guaranteeing the availability of all spare parts for the next ten (10) years.							
12.4		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
12.5		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
12.6		Final operating test by manufacturer							
12.7		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
12.8		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
35	**Power supply**	220 Volts, 60 Hz							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
13	**Power supplay:**	100 to 240 V ~ ±10%, 50/Hz , automatic range selection (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,							
36	**Battery (Back-up)**	OPTIONAL ITEMIZED							
37	**Double insulation**	YES							
38	**Electric Shock Protectior**	Class 1, Type B							
		Back-up battery.							
14	**warranty**	**2 Years comprehensive warranty, from the date of installation and commissioning**							
15	**Other specification**	Please specify other specification							
51		Printout for the item offered with all technical parameters exactly matches the soft copy in the CD.							
52		Supplier is an authorized representative of the manufacturer by SFDA and/or an official agent by Ministry of Trade.			Yes (Attach official documents)				
مواصفات جهاز شفط السوائل كهربائية (متحركة)					0				
NO	**Electric Suction machine (Mobile Suction Unit)**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER where**	**Supplier's Confirmation/ Remarks**	
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
5	**Type**	Electric , silent , mobile , general purpose operated vane pump or piston and High quality							
		Evacuate fluid, tissue, gas, or other foreign materials from a body cavity or lumen by means of suction							
1		Stable mobile stand made of lightweight, heavy-duty, antirust metal with 4 antistatic swiveling castors and wide base to prevent accidental tripping.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Specification	**Specification**							
		Electric powered suction machine: Constructed from heavy duty design consisting of metal base plate.							
		Stainless Steel Top Tray.							
2		The pump shall possess (or exceed) the following technical specifications:							
3		Double piston pump continuous rating type.							
8	**Bottles**	Two collecting jars (2-3) liters fitted with sterilizable rubber bung & fluid valve. Change-over block from jar to other							
		Bottle capacity 2-2.5 litres							
9		Suction Bottle Capacity - 2 x 2500 ml minimum (with safety valve)							
10		Bottles graduation scale 100ml - material polysulphone . sterelisable at 134°C .							
		stopper of the bottle fitted with 2 valves							
		suction inlet connected to the catheter holder by neoprene tube.							
		The bottles should be fitted with rubber lids.							
		Oil-free pump							
		The bottle should be made of transparent autoclavable, and be fitted with float valve system, providing automatic shut-off to avoid overflow, and a bacterial filter.							
		The machine should be fitted with a controllable vacuum knob and a gauge (range 0-760mmHg).							
12	**2 Spare bottles, 10 spare**	2 Spare bottles, 10 spare bacterial filters and 1 tube			Must be included in the price				
9	**Tube**	Suction tube between operation field and suction machine) reusable length 3m Material silicone, Autoclavable							
8		Silicon Tubings.							
10	**Castors**	The apparatus should be mounted on four anti-static tired rubber castors							
6		All Castors with brakes .							
11	**Filters**	The apparatus should be available with bacterial filters							
		Hose : 3 mt silicon rubber							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Mounted on a stable, portable stand with castors/wheels and handle (on trolley)							
		Noise level less than 60db.							
13		Low noise operation (≤ 45 dB @ 1 meter)							
14		Incorporated filter (specify type)							
15		Foot switch operation .							
16		Hand control .							
6	**Motor :**								
6.1	**Flow rate L/ Min.**	Not less than approx. 30 liter / min.							
		Flow rates – open flow 20 litres/ minute or more							
6.2	**Vacuum , Hg.**	Not less than 700 mm.							
7	**Vacuum regulate:**	manual kay adjust the vacuum volume to high or low.							
11		Vacuum control : ≥ 50 LPM specify							
4		Pressure guage up to 800 mm Hg							
5		Pressure regulator .							
7		Over flow protection.							
12		Variable (regulating valve) vacuum pressure from 0 to approximately – 750 mm Hg, with negative pressure gauge indicating actual pressure.							
	Complete with All accessories:								
17		The offer shall include all the accessories and parts necessary for the full and efficient operation of the system. A detailed list of such standard accessories (with part numbers and quantities) shall be included.							
		2x autoclavable bottle of 2-2.5L							
		3 meter of autoclavable tubing							
		3x spare filters.							
		3 Fuses							
		Foot Switch							
		NOTE							
		All equipment needing consumables must allow the possibility to use generic and/or locally made consumables and/or disposables. Compliance to this condition must be declared here by the bidders.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
13	**Warranty**	Minimum of 2 years							
14	**Certification from the manufacturer:**								
14.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
14.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
14.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
14.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
14.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
14.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
14.7		Final operating test by manufacturer							
14.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
14.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
15	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
		Operation power should be AC 220-240V 50 Hz.							
16	**Other specification**	Please specify other specification							
مواصفات جهاز شفط السوائل المحمول					0				
NO	**Mobile Suction Unit**				0				
	Standard	**Requirements**							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	CU - 9	**Mobile Suction Unit**							
		Suitable for ICU Rooms .							
		Double collecting bottles mounted on the unit made oftransparent autoclavable material (134 degree) with over fill protection.							
		The collecting bottle can be dismantled without turning the unit off. The unit should be adapted with anti-bacterial filter							
		Stainless Steel Top Tray.							
		Technical Specifications:							
		Suction capacity : 50 l/m							
		Vacuum regulation : from 0 to 650 mmHg							
		Containers : 2* 2.5 litters each							
		Hose : 3 mt silicon rubber							
		Suction Machine (on trolley)							
مواصفات جهاز تخطيط القلب (رسم القلب)					0				
NO	**ECG Recorder ,12 Channel Complete Accessories with Trolley**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER**	**Supplier's Confirmation/ Remarks**	
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3	**Safety standard**	FDA Approval or CE marking Certificate of prodect tradding in the european union or USA							
		Shall comply to CE marked or FDA Certificate .							
	CU - 7	**ECG Recorder ,12 Channel Complete Accessories with Trolley**							
4	**Design & quality**	mobile , Heavy duty designed, new Model & high quality							
1	**CONFIGURATION**	Mobile							
2	**Cart**	Yes							
3	**LEADS**								
4	**Lead switching**	Automatic/Manual							
		Leads Switching, automatic signal Calibration, and Leads-off indicator.							
5	**Sensitivity, mm/mV**	5, 10, 20., other specify.							
8	**Sensitivity:**	2.5, 5, 10, 20 mm/mV.							
		Sensitivity: 2.5, 5, 10, 20 mm/mV							
		Sensitivity: 2.5mm/mV, 5mm/mV, 10 mm/mV, 20 mm/mV push button							
6	**Calibration signal**	Automatic							
		Calibration: 1 mV push button effective at input amplifier							
		Sequential lead print-out on 50mm width thermosensitive paper							
		Print-out format: 6 channel							
7	**Modes:**	Suitable for Adult/Pediatric/Neonate modes, and easy to all functions and parameter settings. Alarm mute On/Off recorder, Built-in alarm mute, on/off freeze, on/off recorder, Leads Switching, automatic signal Calibration, and Leads-off indicator, Automatic Switch off: After 5 min inactive							
		Shall permit Automatic/Manual printing modes.							
5	**Safety:**	The unit shall be safe to use both for -the operator and the patient.,							
		Patient Safety							
39	**SAFTY AND PERFORMANCE**	IEC 60601-2-51							
21	**LCD MONITOR 10 OR**	Yes ADJSTABLE							
		Shall have a LCD display.							
		LCD: Character LCD.							
		12 Leads Simultaneous Acquisition 12 Channel Electrocardiograph.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Recording channels: 3,6 & 12 channels Recording ECG leads:12							
22	**No. of traces**	3, 6, 12							
23	**PREVIEW SCREEN**	Yes							
24	**No. Waveforms stored**	Min. 30							
25	**ECG transmission**	ECG transmission				Yes			
26	**Interpretation**	Interpretation				Yes			
		Arythmia analysis.							
27	**ECG measurements**	ECG measurements				Yes			
11	**Measurements:**	PR, PQ, QT, ATC, P, QRS, T, HR; others by requirements and clinician preference. PR, PQ, QT, ATC, P, QRS, T, HR; others by requirements and clinician preference, Arrhythmia analysis.							
		Measurments: PR, PQ, QT, ATC, P, QRS, T, HR; others by requirements and clinician preference.							
28	**Auxiliary output**	Auxiliary output				Yes			
29	**Auxiliary input**	Auxiliary input				Yes			
		Auxiliary Input: 10mm deflection for 30 mV input							
30	**DEFIBRILLATOR SYRORNAIZ**					YES			
31	**SINGLE AVREGING**	YSE				YSE			
32	**Overload protection**	Yes				Yes			
		HR Thermal Printer.							
		Digital filtering							
		Selectors: I,II,III, aVR, aVL, aVF, V							
7	**FREQUENCY RANGE, HZ**								
8	**Diagnostic**	0.05-150							
9	**Filtered**	Notch, EMG, Baseline, Wander, filters							
10	**INPUT IMPEDANCE,**								
		Input Imoedance: 50 MΩ Minimum							
11	**Mega ohms**	one hundred							
12	**CMRR @ 60 Hz, dB**	100-140 approx							
13	**Leads-off indicator**	Yes							
6	**System:**	Fully automatic, microprocessor controlled, channel resting electrocardiograph, mains and battery operated, built-in LCD							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Adult/Pediatric/Neonate							
		The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.							
		Please declare in detail compliance of this item offered with any relevant quality and safety standards.							
9	**Frequency:**	Range for diagnostic: 0.67-150 Hz, range for filtering: Any line frequency, low and muscle artifact/high frequency.							
		Frequency: 0.05 Hz - 100 Hz (-3dB)							
		Filter: Muscle filter at 36 Hz (-3 dB)							
		Frequency range for diagnostic: 0.67-150 Hz.							
		Frequency range for filtering: Any line frequency, low and muscle artifact/high frequency.							
14	**RECORDER**								
15	**Channels**	twelve							
10	**Recording:**	Channels: Multi channels, ECG leads: 12 standard leads, method: Automatic/manual, speed: 35, 65 mm/sec, automatic printout on standard paper printer if printer is connected, printout on internal thermal printer for realtime manual mode.							
		Recording channels: Multi channels							
		Recording ECG leads:12 standard leads							
		Recording method: Automatic/manual.							
		Recording speed: 25, 50 mm/sec.							
		Printing system: buildin system with High resolution thermal head printer.							
		Microprocessor programmble, with keypad, and high capability storage.							
16	**Recording**	YES A4 PAPER							
17	**Lead marker**	Automatic							
18	**Timing marker**	Yes							
		Time: 3.2 seconds							
19	**Event marker**	Yes							
20	**Chart speed, mm/sec**	5, 10, 25, 50.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
12	**Visual Indicators:**	Visual Indicators: Loose contact, lead fail, low battery, system status, artifacts and anthers.							
		Visual Indicators: Loose contact, lead fail, low battery, system status, artifacts.							
		Protection: Class 1.							
13	**Patient leakage current:**	Less than 10µ A.							
		Patient leakage current: less than 10µ A.							
14	**ACCESSORIES**	Complete accessories .Connection & Electrodes, trooly							
36	**ACCESSORIES**	All standard accessories							
37	**PRINTER**	Built-in							
38	**A4 paper**	Yes							
		Supplied With							
		Trolley							
		Case, carrying							
		4 pcs paper							
		4 Packs, thermosensitive. 50mmx20m							
		4 pcs Electrodes, Limb. clamp type							
		6 pcs Electrodes, Suction							
		3 pcs Electrodes, Suction							
		500 pcs Electrodes, Resting. Disposable							
		10 pcs Adaptors, Clip.Alligator.4mm							
		Gel, electroconductive. 5x250g							
		Gel, electroconductive. 2x250g							
		1 Patient cable. Banana plug							
		1 Battery charger							
		6 rechargeable batteries							
		1 rechargeable batteries							
		3 Fuses							
		NOTE							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		All equipment needing consumables must allow the possibility to use **generic and/or locally made consumables and/or disposables** Compliance to this . .condition must be declared here by the bidders							
	Installation & Commissioning :								
		2 Years comprehensive warranty, from the date of installation and commissioning							
		User / Nurses training, by Specialist from the Suplier.							
15	**Certification from the manufacturer:**								
15.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
15.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
15.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
15.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
15.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
15.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
15.7		Final operating test by manufacturer							
15.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
15.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
16	**Maintenance:**								
16.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
16.2		Service manual operation manual {Hardcopy & Softcopy}							
16.3		application software and interface connection Included.							
16.4		spare parts list with code NO							
16.5		Including maintenance and calibration tools.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
33	BATTERY OPERATION					Yes			
34	Battery type	Built in rechargeable							
		Battery: Built-in (NiCd).							
		Mains/Battery operated							
35	Operating time, hr	Specify							
40	POWER REQUIREMENTS	220V, 60Hz							
17	Power supply	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
		Mains power: 100 - 240V ±10% , 50 Hz							
		Power supply: 220V/50Hz							
		Automatic Switch off: After 5 min. inactive.							
41	OTHER SPECIFICATIONS	Spare patient cable, chest electrodes, clamp electrodes for limb leads, with ICU Analysis. SOFT WARE Patient cable holder.FDA, CE, ISO, Approved. HL7							
18	Other specification	Please specify other specification							
مواصفات جهاز الصدمة					0				
NO	DC Shock Machine (Defibrillator With ECG Monitor)				0				
	Standard	Requirements			Specified	Yes/No	Catalogue/Brochure PAGE NUMBER	Supplier's Confirmation/ Remarks	
ICU-3	Defibrillator With ECG Monitor								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA approval or CE marking Certificate of prodect tradding in the european union or USA							
35	OTHER SPECIFICATI	FDA or CE, ISO approved.							
		Shall comply to EN 60601-1. CE marked & FDA certificate							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Defibrillator Adult/Pediatric/ with monitor							
		High resolution LCD monitor large, ECG recorder and ECG monitor, separate ECG input, freeze function, hight rsolution printer, synchronous and asynchronous modes ,internal rechargeable battery, visual and audible alarms .							
		Technical Specifications:							
		A compact defibrillator, monitor and an ECG recorder with ECG display, asynchronous defibrillation only, with traditional paddles.							
		For infant & adult, with trolley							
		A 1mV standard signal is not continuously displayed for an approximation of the waveform amplitude.							
		Supplied with a battery charger(Integrated) . Enclosed in shock resistant plastic housing, protecting the system from rough handling.							
		Includes charging from mains connection. Autonomy:more than 130 discharges at 200J.Monitoring:more than 120 minutes. With charge status and low battery indicator.							
		220 V models							
		Electrical protection Input protected against high voltage defibrillation							
4	**Design**	Compact , robust design on mobile trolley							
5	**Defibrillator Technology**	Biphasic							
1	**DEFIBRILLATOR ENERGY SELECTION, Joules.**					Yes			
		Technical Specifications:							
6	**Defibrillator :**								
6.1	**Output Energy range**	5-200J , to be selected through not less than 10 steps							
		output : 200 - 260 joule							
3	**External Biphasic , Adult**	2-200 Joules							
4	**External Biphasic , Pediatric / Neonatal**	2-200Joules							
6.2	**Internal discharge**	Included							
6.3	**Charging trigger**	On paddles							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**PADDLE CONTROLS**	Charge, Discharge							
7	**Pediatric Paddles / Neonatal**					Yes			
8	**Disposable PADDLE**	Yes , 25 pairs , validity two years							
6	**Synchronizer**	Yes							
6.4	**Synchronizer**	Included							
		Includes charging from mains connection.							
		Autonomy:more than 100 discharges at 260J or more .							
		Max.charging time to (200 - 260) joule : 3-6 seconds							
2	**Internal with Lead**	5-50 Joules							
6.5	**Internal paddle limit**	Max. 50J							
6.6	**Max. energy charge time**	Max. 10 sec.							
6.6	**Operation modes**	Sync. , Async.							
6.7	**Discharge test**	Included							
6.8	**Charging indication**	Audio and visual							
		ECG monitoring time : 10 hr							
		Battery charging time to full : 4 hr or less							
		With charge status and low battery indicator.							
		Electrical protection Input protected against high voltage defibrillation							
		With Automated External Defibrillation (A.E.D) Mode with it's conections & Electrode .							
		MONITOR							
7	**ECG Monitor :**								
9	**ECG Monitor**	Yes							
		ECG Monitoring is performed using 4, 5 and 10 lead cable, internal or external reusable paddles and disposable multifunction electrodes- 5 Lead cable: PADDLE, I, II, III aVR, aVL, aVF							
7.1	**Display**	LCD or similar not CRT with a size of min. 5.5"							
10	**Type**	LCD colored							
11	**Screen display size,**	5 to 7 Inch							
12	**Sweep Speed, mm/sec.**	20-25, Other specify.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
13	**Lead Configuration**	Yes 3 - 5 -12 leads							
14	**THROUGH THE PADDLE MONITORING**					Yes			
7.2	**Displayed information**	Heart rate , ECG waveform , ECG source , output energy selected and delivered							
15	**HR Display**	Yes							
16	**SPO2**	Yes							
17	**HR Alarms**	Yes							
18	**Frequency Response, Hz.**					Specify			
		Frequency response - MAINS Filter: (50/60 Hz).							
		- Diagnostic: 0.05-150 Hz (only on the recorder)							
		- Muscle filter: 0.67-40 Hz (only on the recorder)							
		- On-screen response: 0.5-25 Hz							
		Cardiac frequency 30-300 ppm ± 10 % shown on the unit screen							
19	**Lead fault indicator**	Yes							
7.3-1	**ECG Source**	Manually selected , paddles , leads							
7.3-2		I , II , III							
7.4	**1 mV Cal. Signal**	Included							
		Loose lead indication An icon appears on-screen when any lead is loose or badly connected							
		Size of the ECG 0.5, 1, 2 and 4 cm/mV selectionable from the front panel							
		On-screen speed of the ECG 25 mm/sec							
20	**EXTERNAL PACEMAKER**					YES			
21	**Pacing Mode**	Demand, fixed rate, Specify.							
22	**Pacing Rate, ppm**	50-150, Specify							
23	**Output current, mA**	0-140 or wider							
24	**Pulse width, m sec.**	> 20							
7.5	**Heart Rate range**	30-250bpm with audio and visual alarm with selected High and Low limits							
		Heart rate meter accuracy and							
		response to irregular rhythm							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Meets the IEC 60601-2-27:2005 standard for ventricular bigeminy (HR=40 bpm).							
		Averaged heart rate - For heart rates greater than or equal to 50 bpm, the							
		8 most recent R-R intervals are used for							
		averagingthe heart rate							
		- For heart rates lower than 50 bpm, the 4 most							
		Heart rate response time - From 80 to 40 bpm: 3 secods							
		- From 80 to 120 bpm: 2 secondss							
		Alarm response time for tachycardia							
		Capacity to reject T-waves Rejects T-waves with a maximum amplitude of 0.7 mV							
		Alarms - Maximum and Minimum Cardiac frequency							
		- Maximum and Minimum% SpO2 (only with the pulse oximetry option) - VT/VF Alarm (only with the Semiautomatic							
7.6	**ECG Gain**	5 , 10 , 20 mm/mV							
7.7	**Heart Beat indicator**	Audio and visual							
8	**Recorder**								
8.1	**Type**	Built in thermal head printer							
8.2	**Speed**	Adjustment 5 - 25 mm/sec.							
8.3	**Modes**	Auto & Manual							
25	**ECG RECORDER**	Yes							
26	**Paper Speed, mm/sec.**	25, Others specify.							
27	**Auto/Manual Print**	Specify							
28	**Annotation**	Time, date, lead, gain, heart rate, operating mode, other specify.							
33	**TO BE PLACED ON CRASH CART**	YES							
34	**AC POWER**	220Volt - 60Hz							
36	**Options Itemized Prices**	Yes							
37	**CPR quality monitoring**	Yes							
38	**Trace freeze**	specify							
39	**CO2 MODULE**	YES							
9	**Accessories :**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		ACCESSORIES							
		Should be supplied with :-							
		All accessories & all conection for adult and another one for paediatrics .							
		1 battery							
		Suitable trolley .							
9.1	**Trolley**	Locally made high quality mobile trolley on 4 castors , 2 with brakes with drawer for the accessories							
		paddles for adult and child							
		Reusable adult pedals and children pedals .							
9.2	**Paddles**	External for Adult & Pediatric							
		1 ECG cable							
9.3-1	**ECG Cable**	3 Lead wire cable for adult							
9.3-2		3 Lead wire cable for pediatric							
		3 Fuse							
		NOTE							
		All equipment needing consumables must allow the possibility to use generic and/or locally made consumables and/or disposables. Compliance to this condition must be declared here by the bidders.							
9.4	**All other needed accessories**	Included							
	Installation & Commissioning :	**Installation & Commissioning :**							
		3 Years warranty with spear parts from the date of installation and commissioning if the CE marked or 2 Years waranty with spear parts from the date of installation and commissioning if FDA Certificate							
		Technical Data Sheet must accompany the offers							
		User /Nurses training, by Specialist from the Suplier.							
		The system offered shall be designed to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.							
10	**Certification from the manufacturer:**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
10.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
10.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
10.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
10.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
10.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
10.7		Final operating test by manufacturer							
10.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
10.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
11	**Maintenance:**								
11.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
11.2		Service manual operation manual {Hardcopy & Softcopy}							
11.3		application software and interface connection Included.							
11.4		spare parts list with code NO							
11.5		Including maintenance and calibration tools.							
12	**Training**	Service Training for one MWC Bio-Engineer shall be provided within the first year of warra							
13	**Power supply**								
		Mains power : 220- 240V ±6% , 50 Hz							
13.1		Rechargeable battery with built in charger with indicators for charging and low battery							
13.2		100 to 240 V ±10%, 50 Hz, (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
14	**Rechargeable battery**	Easy accessible from exterior							
29	**BATTERY/LINE POWER OPERATION**	Both							
30	**Integral or Removable**	Specify							
31	**Operating Time, Hr.**	> OR = Two Hours continuous ECG monitoring - OR > / = 20 discharges.							
32	**Charging Time, Hr.**	Specify							
15	**Other specification**	Please specify other specification							
مواصفات محطة المراقبة للمرضى في العناية المركزة					0				
NO	**CENTRAL STATION MONITOR (MONITOR BEDSIDE CENTRAL 16 BEDS AD & PED)**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER**	**Supplier's Confirmation/ Remarks**	
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number							
3	**Safety standard**	FDA Approval or CE marking							
1	**APPLICATION AREA**	ADULT , PEDIATRIC , NEONATE							
2	**CENTRAL STATION**	YES							
3	**NO. OF PATIENT**	LISCENCE FOR 16 BEDS							
4	**Design**	Computer based, compatible with the bed side monitors and high quality							
5	**Communication with the bed side**	Network with min. 10 beds it can be upgraded up to 20 Beds Can be upgraded to HIS							
8	**COMMUNICATION**	NETWORK, CENTRAL STATION, REMOTE BEDSIDE MONITOR							
9	**BED TO BED COMMUNICATION**					YES			
10	**CONFIGURABLE REPORTING**					YES			
11	**ECG INTERPRETATION**					YES			
12	**COMPUTER MEDICAL GRADE**					YES			
13	**KEYBOARD AND MOU**	WIRELESS OR WIRED SPECIFY			WIRELESS OR WIRED SPECIFY				

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
4	DISPLAY MONITOR	HIGH RESOLUTION COLOR NOT LESS THAN 19 INCH MEDICAL GRADE, FLAT SCREEN TFT. TYPE							
5	NUMBER OF MONITORS	2 SCREEN WITH CONFIGURABLE NUMBER OF PATIENT , SPECIFY							
6	TRENDING FULL DISCLOSURE	NOT LESS THAN 72 HRS.							
7	OPERATION	FIXED KEY AND MENU DRIVEN/TOUCH SCREEN, OR OTHER - SPECIFY							
6	**Display**	Min. 15" high resolution color TFT or LCD screen							
7	**Display modes**	All beds, single bed , trends							
8	**All bed mode**	10 Beds display with 3 waveform and vital parameters for each bed							
9	**Single bed mode**	Display of the selected bed screen							
10	**Trends**	Min. 24 hrs.							
11	**Patient data entry**	Via keyboard							
14	RECORDER	4 CHANNEL, DIGITAL			4 CHANNEL, DIGITAL				
15	RECORDING	YES, ONE FOR THE SYSTEM			YES, ONE FOR THE SYSTEM				
16	LASER PRINTER	YES, ONE FOR THE SYSTEM			YES, ONE FOR THE SYSTEM				
17	DATA	ALL, PATIENTS			ALL, PATIENTS				
18	WAVEFORMS	YES				YES			
19	STRIP CHART	YES				YES			
20	REMOTE OPERATION	FROM BEDSIDE MONITOR			FROM BEDSIDE MONITOR				
12	**Alarm management**	Alarm silence, indicators audio visual							
21	ALARM - AUDIO AND	ALARM - AUDIO AND VISIBLE				YES			
22	ALARM LAMP AND FI	ALARM LAMP AND FLASHING				YES			
13	**Data handling**	Via CD R/W, USP							
14	**Laser printer**	Included							
15	**UPS**	Sufficient included							
16	**Accessories**	All needed for connecting central to 10 beds through network							
17	**System SW CDs**	Included							
23		THE SYSTEM SHOULD BE BASED ON THE LATEST TECHNOLOGY IN MONITORS THAT COVER ALL APPLICATIONS NEEDED IN ICU.				YES			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
24		THE MONITOR SHOULD HAVE INTENSIVE CARE SOFTWARE FOR ADULT, PEDIATRIC.				YES			
25		THE MONITOR SHOULD PROVIDE A HIGH LEVEL OF ACCURACY OF MONITORED PARAMETERS.				YES			
26		THE MONITOR SHOULD BE MOBILE STAND WITH LOCKABLE WHEELS (MINIMUM OF 5), WITH BASKET,				YES			
27		THE MONITOR SHOULD PROVIDE A HIGH LEVEL OF ACCURACY (E.G. 2% APPROXIMATE FOR ECG) OF ALL MONITORED PARAMETERS. VENDORS SHOULD PROVIDE PARAMETERS ACCURACY DETAILS.				YES			
28		THE MONITOR SHOULD BE MODULAR WITH SINGLE OR MULTI-PARAMETERS PER MODULE.				YES			
29	**BEDSIDE MONITOR:**	16 MONITORS				16 MONITORS			
30	**THE DISPLAY SHOULI**	THE DISPLAY SHOULD BE COLOR LCD AND SHOULD HAVE AN APPROXIMATE SIZE OF 19 INCHES WITH A HIGH LEVEL OF CONTRAST, BRIGHTNESS, RESOLUTION, AND VISIBILITY FROM A DISTANCE AND AT A WIDE ANGLE. MONITORED PARAMETERS VALUES SHOULD BE LARGE ENOUGH TO BE				YES			
31	**READ FROM A DISTANCE.**								
32	**THE MONITOR SHOU**	THE MONITOR SHOULD BE A TOUCHSCREEN.				YES			
33		THE MONITOR SHOULD BE CAPABLE OF DISPLAYING SIX (6) PHYSIOLOGICAL WAVEFORMS SIMULTANEOUSLY AS A MINIMUM.				YES			
34		THE MONITOR SHOULD BE CAPABLE OF INTERFACING WITH THE HOSPITAL AND BEDSIDE CLINICAL INFORMATION SYSTEM (HCIS). IT SHOULD BE ABLE TO DOWNLOAD ANY RECORDED PARAMETER, WAVEFORMS AND NUMERICAL DATA, TO THE HCIS. THE VENDOR SHOULD SUBMIT A LIST OF				YES			
35	**COMPATIBLE HCIS. (PLEASE PROVIDE IT AS ITEMIZED PRICE)**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
36		THE VENDOR SHOULD PROVIDE STATE OF THE ART TECHNOLOGY FOR INFORMATION TECHNOLOGY USED IN THE MONITOR APPLICATIONS.				YES			
37		THE VENDOR SHOULD PROVIDE AN ITEMIZED PRICE FOR ALL CLINICAL SOFTWARE THAT IS USED ON THE MONITOR (VENDOR SHOULD SUPPORT DOCUMENTS WITH EVIDENCE THAT PROVE THE BENEFIT OF THE CLINICAL PROGRAMS)				YES			
38		THE UNIT SHOULD BE WELL CONSTRUCTED WITH DURABLE MATERIALS TO WITHSTAND TYPICAL ABUSE, HEAVY USED ENVIRONMENT. THE VENDOR SHOULD PROVIDE SUPPORT DOCUMENT THAT PROVES THE DURABILITY OF HIS PRODUCT (INTERNATIONAL REFERENCE SITE SHOULD BE MENTIONED).				YES			
39		THE MONITOR SHOULD BE CAPABLE OF PROVIDING AN AUXILIARY ECG OUTPUT SIGNAL FOR DEFIBRILLATOR/IABP SYNCHRONIZATION, AND AN AUXILIARY BP OUTPUT SIGNAL FOR IABP SYNCHRONIZATION (PREFERABLE).				YES			
40		THE MONITOR SHOULD PROVIDE USER-ADJUSTABLE VISUAL AND AUDIBLE ALARMS TAILORED FOR INDIVIDUAL PARAMETERS.				YES			
41		THE MONITOR SHOULD BE CAPABLE OF PROVIDING GRAPHICAL AND NUMERICAL 24-HOURS TRENDS OF ALL MONITORED PARAMETERS.				YES			
42		THE MONITOR SHOULD BE SOFTWARE-UPGRADEABLE TO INCLUDE FUTURE UPDATES AND/OR ADDITIONS OF SOFTWARE APPLICATION PACKAGES.				YES			
43		THE VENDOR SHOULD PROVIDE DETAILED TECHNICAL INFORMATION FOR THE UNIQUE FEATURE IN THE MONITOR.				YES			
44		THE VENDOR SHOULD PROVIDE DETAILED TECHNICAL INFORMATION ABOUT THE FOLLOWING:				YES			
45		HR ACCURACY				YES			
46		ECG HR RANGE, BPM				YES			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
47		INTERPRETATION				YES			
48		ARRHYTHMIA DETECT TECHNIQUE AND NUMBER OF LEAD ANALYZED				YES			
49		ST TECHNIQUE AND NO. OF LEADS ANALYZED				YES			
50		RESPIRATION METHOD AND WAVEFORM DISPLAYED FEATURE				YES			
51		DISPLAY SIZE, (CM) IN				YES			
52		DISPLAY USER INTERFACE FEATURE				YES			
53		REMOTE DISPLAY AVAILABILITY				YES			
54		TRENDING PARAMETERS				YES			
55		NETWORKING AND CENTRALIZATION.				YES			
56		HARDWIRED/WIRELESS				YES			
57		COMMUNICATION PROTOCOLS				YES			
58	**ALARM TYPES AND FEATURE FOR THE MACHINE**					YES			
59		THE MONITOR SHOULD BE CAPABLE OF RECORDING AND DISPLAY IN WAVEFORMS AND NUMERICAL VALUES THE FOLLOWING PARAMETERS (PLEASE PROVIDE IT AS ITEMIZED PRICE):				YES			
60		ECG, WITH 5 LEADS DISPLAY, DETECTION OF PACEMAKER SPIKES, AND ARRHYTHMIA.				YES			
61	**RESPIRATION, WITH**	RESPIRATION, WITH WAVEFORM DISPLAY AND ALARMS.				YES			
62	**INVASIVE PRESSURE (IP).**					YES			
63		PULSE OXIMETRY (SPO2), WITH NELLCOR-OXYMAX OR MASSIMO RD SET CABLES AND FINGER PROBES.				YES			
64		NON-INVASIVE BLOOD PRESSURE (NIBP), AND QUICK-CONNECT HOSES.				YES			
65		TEMPERATURE, IN TWO CHANNELS FOR TWO SIMULTANEOUS PROBES, SKIN AND RECTAL.				YES			
66		END-TIDAL CO2 (ETCO2), WITH WAVEFORM DISPLAY, RAPID WARM-UP AND CALIBRATION TIMES, AND LOW DEAD-SPACE CONNECTORS.				YES			
67	**CARDIAC OUTPUT.**					YES			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
68	LEVEL OF CONSCIOU	LEVEL OF CONSCIOUSNESS.				YES			
69		THE VENDOR SHOULD PROVIDE AN ITEMIZED PRICE FOR DIFFERENT MODULES.				YES			
70	THE MONITOR SHOULD HAVE A MODULE THAT CAN MEASURE AT THE SAME TIME:					YES			
71		ECG, RESP.				YES, QTY: 1			
72		PULSE OXIMETRY (SPO2), NELLCOR-OXYMAX OR MASSIMO.				YES, QTY: 1			
73		NON-INVASIVE BLOOD PRESSURE (NIBP).				YES, QTY: 1			
74		INVASIVE BLOOD PRESSURE (IBP).				YES, QTY: 2			
75		TEMPERATURE.				YES, QTY: 1			
76	ALL PATIENT INPUT SHOULD BE DEFIBRILLATOR-PROTECTED.					YES			
77		ALL CABLES, PROBES, AND TRANSDUCERS (EXCEPT FOR DISPOSABLES) FOR ALL REQUIRED PARAMETERS SHOULD BE PROVIDED WITH THE MONITOR, FOR ADULTS AND PEDIATRIC.				YES			
78		ALL HARDWARE AND ACCESSORIES FOR EACH MODULE SHOULD BE DESIGNED FOR ALL TYPE OF PATIENT USE (PROVIDE ITEMIZED PRICE).				YES			
79		THE VENDOR SHOULD PROVIDE AN ITEMIZED PRICE FOR ALL OPTION, ACCESSORIES ON THE MACHINE.				YES			
80		THE MANUFACTURER SHOULD GUARANTY THAT SPARE PARTS AND TECHNICAL SUPPORT WILL BE PROVIDED FOR AT LEAST TEN YEARS.				YES			
81		HARDWARE AND SOFTWARE SHOULD BE INDUSTRY STANDARD WITH THE LATEST SPECIFICATION; THE VENDOR SHOULD PROVIDE A SPECIFICATION OF BOTH HARDWARE AND SOFTWARE USED IN THE SYSTEM.				YES			
82		THE VENDOR SHOULD PROVIDE AN ITEMIZED PRICE FOR ALL OPTIONS IN THE SYSTEM.				YES			
83		THE UNIT SHOULD BE PROVIDED WITH A LINE (POWER) CORD OF ACCEPTABLE DURABILITY, QUALITY, LENGTH, AND SHOULD BE SECURED WITH ADEQUATE STRAIN RELIEFS.				YES			
84		THE CHASSIS SHOULD BE GROUNDED AND GROUNDING RESISTANCE SHOULD NOT EXCEED 0.15 OHM.				YES			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
85		IF THE UNIT IS DOUBLE INSULATED, IT SHOULD BE SO LABELED.				YES			
86		SWITCHES, KNOBS, AND OTHER CONTROLS SHOULD BE VISIBLE AND CLEARLY IDENTIFIED, AND THEIR FUNCTIONS SHOULD BE SELF-EVIDENT.				YES			
87		SWITCHES, KNOBS, AND OTHER CONTROLS SHOULD BE PROTECTED AGAINST ACCIDENTAL SETTING CHANGES AND SHOULD BE SEALED AGAINST PENETRATION OF LIQUIDS.				YES			
88		ALL AVAILABLE OPTIONS, CONSUMABLES, OR DISPOSABLES DEEMED NECESSARY FOR THE INTENDED FUNCTION OF THE EQUIPMENT AND NOT LISTED IN THE TECHNICAL SPECIFICATIONS SHOULD BE INCLUDED AND SPECIFIED.			PROVIDE ITEMIZED PRICE				
89		WALL MOUNT BRACKETS AS ITEMIZED PRICE			PROVIDE ITEMIZED PRICE				
90	**ETCO2 ITEMIZED**				PROVIDE ITEMIZED PRICE				
91	**CENTRAL STATION ITEMIZED (LICENSE OF 20 BEDS)**				PROVIDE ITEMIZED PRICE				
92	**ITEMIZED:**	**ITEMIZED: THE MONITOR SHOULD HAVE A MODULE THAT CAN MEASURE 8 WAVES AT THE SAME TIME AS FOLLOWS :**			PROVIDE ITEMIZED PRICE				
93		QTY: 1 ECG, RESP.			PROVIDE ITEMIZED PRICE				
94		QTY: 1 PULSE OXIMETRY (SPO2), NELLCOR-OXYMAX OR MASSIMO.			PROVIDE ITEMIZED PRICE				
95		QTY: 1 NON-INVASIVE BLOOD PRESSURE (NIBP).			PROVIDE ITEMIZED PRICE				
96		QTY: 3 INVASIVE BLOOD PRESSURE (IBP).			PROVIDE ITEMIZED PRICE				
97		QTY: 2 TEMPERATURE.			PROVIDE ITEMIZED PRICE				
98		ELECTRICAL LEAKAGE CURRENT FROM THE CHASSIS OF THE SYSTEM SHOULD NOT EXCEED [0.5 MA PER IEC 601-1 OR 0.3 MA IN THE U.S. PER NFPA 99-1993].OPERATOR SAFETY AND SYSTEM PERFORMANCE SHOULD NOT BE ADVERSELY AFFECTED BY FLUID SPILLS.				YES			
99		THE SYSTEM PERFORMANCE SHOULD NOT BE AFFECTED BY EMI RADIATED OR CONDUCTED THROUGH THE POWER LINES FROM ANOTHER DEVICE.				YES			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
100		THE POWER CORD SHOULD BE AUTOMATIC RETRACTABLE.				YES			
101		GENERAL SPECIFICATIONS AND REQUIREMENTS:				YES			
102		POWER SUPPLY: 230 VAC 60 HZ.				YES			
103		HOSPITAL GRADE BRITISH TYPE POWER PLUGS, LINE CORDS, AND STRAIN RELIEF.				YES			
104		THE UNIT MUST MEET THE APPLICABLE REQUIREMENTS AND STANDARDS OF THE UNDERWRITERS LABORATORIES (UL), CE MARK, IEC, ISO, AND/OR FDA APPROVAL.				YES			
105		THE UNIT SHOULD BE MANUFACTURED ACCORDING TO GMP GUIDELINES.				YES			
106		LABELED WITH ALL APPROPRIATE OPERATION AND SAFETY TAGS AND SYMBOLS.				YES			
107		THE UNIT SHOULD BE SIMPLE TO OPERATE AND EASY TO CLEAN AND DISINFECT WITH ISOPROPANOL ALCOHOL 70%.				YES			
108		THE EXTERIOR SHOULD BE WELL CONSTRUCTED WITH DURABLE FLUID/SHOCK RESISTANT MATERIALS TO WITHSTAND TYPICAL ABUSE AND CLEANING.				YES			
109		RUGGED TO HANDLE IN THE ROUGH TRANSPORT ENVIRONMENT.				YES			
110		THE UNIT SHOULD HAVE NO SHARP EDGES. ALL EXTERNAL COMPONENTS SHOULD BE SECURELY MOUNTED.				YES			
18	**Priced spare part list**	Please price separately the following:							
		the monitor display							
		the interface card in the main unit							
		the hub							
19	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
14	**Installation & Commissioning :**								
14.1	**warranty**	2 Years comprehensive warranty, from the date of installation and commissioning							
14.2	**Training**	User / Nurses training, by Specialist from the Supplier.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
14.3	**Manuals & Documents**	Operation & Service manual Service/ maintenance and technical documents inclusive of schematics, component diagrams, trouble shooting , spare parts ordering information etc.							
15	**Certification from the manufacturer:**								
15.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
15.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
15.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
15.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
15.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
15.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
15.7		Final operating test by manufacturer							
15.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
15.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
16	**Maintenance:**								
16.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
16.2		Service manual operation manual {Hardcopy & Softcopy}							
16.3		application software and interface connection Included.							
16.4		spare parts list with code NO							
16.5		Including maintenance and calibration tools.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
17	**Note**	All equipment needing consumables must allow the possibility to use generic and/or locally made consumables and/or disposables. Compliance to this condition must be declared here by the bidders.							
18	**Other specification**	Please specify other specification							
مواصفات جهاز التبخير الكهربائي التراسونيك					0				
NO	**Electrical Nebulizer ultrasonic**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER**	**Supplier's Confirmation/ Remarks**	
ICU-8	**Electrical Nebulizer ultrasonic**								
1	**Manufacturer**	**Please specify manufacturer and country of origin**							
2	**Model Number**	**Please specify model number of the offered equipment**							
3	**Safety standard**	**FDA approval or CE marking**							
		Shall comply with CE marked							
	CU - 4	Nebulizer Ultrasonic							
4	**Main unit with mobile stand on castors.**	**Required**							
		Main Unit With Mobile Stand On Castors.							
		220V Single Phase AC Voltage, 50Hz.							
5	**Design**	**Compact design, for hospital use, Heavy duty, metal case and hygienic and high quality**							
6	**Flow rate, L/min.**								
		Nebulizing Rate: 4ml / Min At Least.							
6.1		**15 Lit/min**							
6.2		**Medical fluid chamber capacity = 250cc,medication cup 50cc . Door open, occlusion, low voltage.**							
		Nebulizing Timer: 0 - 30 Minutes & Continuous.							
6.3		**Nebulizing timer: 0 - 30 minutes & continuous.**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Medical Fluid Chamber Capacity = 1.7MHz. Door Open, Occlusion, Low Voltage.							
6.4		**Crystal operating frequency : 1.7 mhz**							
7	**Operating pressure**	**0-1.0 bar**							
9	**Noise level**	**Please specify**							
10	**Max. pressure**	**Please specify**							
1	**NEBULIZER**								
2	**Warm-up time, min**								
3	**Mist temperature, 0C**	33-35 aprox.							
4	**Mist output, mL/min**	0.2-3.15							
5	**Noise level, dbA,**								
6	**max @ 1 m distance**								
7	**O2 conc settings, %**	40-100 % approx.							
8	**HEATING UNIT**								
9	**Location**	Tube							
10	**Type**	Processor controlled/heater block							
11	**Power-on indicator**	Yes							
12	**Temperature control**	Yes							
13	**Safety shutoff**	Yes							
14	**Line voltage, VAC**	220-240 V, 60 Hz							
15	**RESERVOIR**								
16	**Refillable**	YES							
17	**Usable volume, mL**	>200							
18	**Water ml**	>200							
19	**Saline (0.45/0.9%)**	>150							
20	**STERILIZATION METHOD**								
21	**Nebulizer head and Heating unit**	Chemical and autoclaveable							
22	**Reservoir**	Chemical and autoclaveable							
8	**All standard accessories**	**All accessories (filters, tubings, face mask, etc.)**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		All accessories (filters, tubings, face mask, etc.)							
		Supplied With Complete Accessories.							
		Supplied With 2 Year Recommended Spare Parts List.							
11	**Spare Parts**	**Recommended spare parts list with price and validity must be provided along with the offer (mandatory)**							
		Mains-cum-Rechargeable Battery							
		Power 220-240V±6%, 50Hz							
		Operation manual							
		Service manual							
		Recommended spare parts list with price and validity must be provided along with the offer (mandatory)							
23	**OTHER SPECIFICATIONS**	ALL ACCESS. NEEDED TABLE TOP							
12	**rechargeable battery**	**Required at List 2 h**							
13	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
14	**Certification from the manufacturer:**								
14.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
14.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
14.3		Guaranteeing the availability of all spare parts for the next ten (10) years.							
14.4		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
14.5		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
14.6		Final operating test by manufacturer							
14.7		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
14.8		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
15	**Installation & Commissioning :**								
		2 Years waranty with spear parts from the date of installation and commissioning							
		User /Nurses training, by Specialist from the Suplier.							
15.1	**warranty**	**2 Years comprehensive warranty, from the date of installation and commissioning**							
15.2	**Training**	User / Nurses training, by Specialist from the Supplier.							
15.3	**Manuals & Documents**	**Operation & Service manual** **Service/ maintenance and technical documents inclusive of schematics, component diagrams, trouble shooting , spare parts ordering information etc.**							
16	**Note**	**All equipment needing consumables must allow the possibility to use generic and/or locally made consumables and/or disposables.** **Compliance to this condition must be declared here by the bidders.**							
17	**Other specification**	Please specify other specification							
	مواصفات جهاز تدفئة الدم				0				
NO	**Blood Warmer**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER**	**Supplier's Confirmation/ Remarks**	
ICU-14	**Blood Warmer**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
16	**APPLICATIONS**								
17	**- IV**	Yes				Yes			
18	**- Heater power, W**	800-850 W (Approx)			800-850 W (Approx)				

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
19	- High Temperature Cut	43 °C				43 °C			
20	- Automatic air elimination on all high flow sets					Yes			
21	- Electronic temperature control					Yes			
22	- Audible, visual & alarm test High Temperature alarms					Yes			
23	PHYSICAL SPECIFICATIONS								
24	Dimensions	Specify				Specify			
25	Weight	Specify				Specify			
26	LINE POWER								
27	AC Voltage / Phase	220 V / Single Phase			220 V / Single Phase				
28	Current	13 A for power socket			13 A for power socket				
29	Frequency	60 Hz.				60 Hz.			
30	Plug Type	3 Pin British				3 Pin British			
4	Design & quality	Mobile, B1558							
1	CONFIGURATION	Mobile, IV pole mounted							
4	Temperature Setting	From 36 c - 43 c							
		Temperature sensors							
2	MAXIMUM TEMPERA	Up to 42°C							
3	TECHNICAL SPECIFICATIONS								
4	Heat Exchanger								
5	- Aluminum heat exchanger					Yes			
6	- Technology	Specify				Specify			
7	- Maximum Temperatur	Up to 42°C				Up to 42°C			
8	- Increments, °C	1				1			
9	- Warm-up time, mins	< 2				< 2			
10	Maximum Flow, mL/min, 10°c input to ≥ 37°c output	≥ 150				≥ 150			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11	**Priming Volume, mL**	20 - 150				20 - 150			
5	**Display**	Digital display or better							
6	**Alarms**	audible and visual							
7	**Safety Class**	Please specify safety class to protection the patient							
8	**Warranty**	Minimum of 2 years							
12	**Display**	LCD				LCD			
13	**- Temperature range, °C**	33 - 42				33 - 42			
14	**- Increments, °C**	1				1			
15	**Air Vent or Trap**	Manual bubble trap on standard flow sets; Autoventing bubble trap on all high-flow sets.							
9	**Certification from the manufacturer:**								
9.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
9.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
9.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
9.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
9.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
9.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
9.7		Final operating test by manufacturer							
9.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
9.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
10	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11	**Warranty**	Minimum of 2 years							
12	**Other specification**	Please specify other specification							
مواصفات جهاز تدفئة الدم					0				
NO	**Blood Warmer Rapid Infusion**				0				
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER**	**Supplier's Confirmation/ Remarks**	
ICU-14	**Blood Warmer**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
22		FDA , CE , Iso Approved			FDA , CE , Iso Approved				
1	**HEAT EXCHANGER**								
2	**Technology.**	Dry heat, sealed water cirduit, water bath, warm forced air, direct radial conduction, and magnetic induction,.				Specify			
3	**MAX. TEMP. SETTING degree C**	38 - 42 degree C, Specify			38 - 42 degree C, Specify				
4	**FLOW RANGE, mL/min, With 10OC input to at least 35OC**	> OR = 1000				> OR = 1000			
16	**APPLICATIONS**								
6	**IV , Irrigation**	Specify				Specify			
17	**- IV**	Yes				Yes			
18	**- Heater power, W**	800-850 W (Approx)			800-850 W (Approx)				
19	**- High Temperature Cut**	43 °C				43 °C			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
20	**- Automatic air elimination on all high flow sets**					Yes			
21	**- Electronic temperature control**					Yes			
22	**- Audible, visual & alarm test High Temperature alarms**					Yes			
23	**PHYSICAL SPECIFICATIONS**								
24	**Dimensions**	Specify				Specify			
25	**Weight**	Specify				Specify			
26	**LINE POWER**								
27	**AC Voltage / Phase**	220 V / Single Phase			220 V / Single Phase				
28	**Current**	13 A for power socket			13 A for power socket				
29	**Frequency**	60 Hz.				60 Hz.			
30	**Plug Type**	3 Pin British				3 Pin British			
4	**Design & quality**	Mobile, B1558							
1	**CONFIGURATION**	Mobile, IV pole mounted							
4	**Temperature Setting**	From 36 c - 43 c							
		Temperature sensors							
2	**MAXIMUM TEMPERA**	Up to 42°C							
3	**TECHNICAL SPECIFICATIONS**								
4	**Heat Exchanger**								
5	**- Aluminum heat exchanger**					Yes			
6	**- Technology**	Specify				Specify			
7	**- Maximum Temperatur**	Up to 42°C				Up to 42°C			
8	**- Increments, °C**	1				1			
9	**- Warm-up time, mins**	< 2				< 2			
10	**Maximum Flow, mL/min, 10°c input to ≥ 37°c output**	≥ 150				≥ 150			
11	**Priming Volume, mL**	20 - 150				20 - 150			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Display**	Digital display or better							
6	**Alarms**	audible and visual							
7	**Safety Class**	Please specify safety class to protection the patient							
8	**Warranty**	Minimum of 2 years							
7	**DISPLAY**	LCD, LED, TFT, Specify			LCD, LED, TFT, Specify				
8	**Temp range, C. Degree**	From 35 TO 41 C Degree			From 35 TO 41 C Degree				
9	**Increments, OC**	0.5 C degree				0.5 C degree			
10	**HEATER POWER, W**	Specify				Specify			
11	**PRIMARY TEMPERATURE**								
12	**CONTROL**	Electronic thermostatic			Electronic thermostatic				
13	**HIGH-TEMPERATURE CUTOFF, OC**	40 - 43, Others specify			40 - 43, Others specify				
14	**HIGH-TEMPERATURE ALARM Audible, Visual, Alarm test**					Specify			
15	**ON/OFF SWITCH**	Yes				Yes			
16	**MOUNTING**								
17	**Freestanding, IV pole attachment**					Specify			
18	**ACCESSORIES**								
19	**500 disposable set,**	Yes				Yes			
20	**life for disposable sets**	6 M0NTH				6 M0NTH			
21	**Power Supply**	220 Vac , 60 Hz				220 Vac , 60 Hz			
9	**Certification from the manufacturer:**								
9.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
9.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
9.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
9.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
9.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
9.7		Final operating test by manufacturer							
9.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
9.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
10	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
11	**Warranty**	Minimum of 2 years							
12	**Other specification**	Please specify other specification							
مواصفات جهاز تحليل غازات الدم في العناية المركزة					0				
NO	**blood gase analyzer**				0				
	Standard	**Requirements**							
ICU-19	**blood gase analyzer**								
1	**Manufacturer**	Please specify manufacturer and country of origin.							
2	**Model number**	Please specify model number.							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
1	**FDA approval or CE ma**	FDA approval or CE marked				yes			
2	**Type**	Blood System Analyzer POC			Blood System Analyzer POC				

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3	**Applications**	Measure Blood Parameters at patient bed side; Ph,pCO2,pO2,Na+,K+,Caa++,Lac,Glu,Hct, Crea, and CL-							
4	**Design**	heavy duty and high quality							
5	**Available tests (measured & derived)**	PH , PCO2 , PO2 ,HGB , So2, Hco3, BE,…							
4	**Calculated Parameters at patient side;**	Calculated Parameters at patient side; cHgb,Bicharbonate,cTCO2,BE(ecf),BE(b),cSO2,eGFR,eGFR-a,				Yes			
6	**Electrodes**	Maintenance free							
7	**Alarms**	Audible / Visible indicator							
8	**Printer**	Built in							
9	**Calibration**	Auto calibration							
10	**Analysis Time**	<60 sec							
11	**Interface**	Please specify							
12	**Sample intake**	Normal , Micro							
13	**Ambient temp. range ,**	(15°C - 30°C)							
14	**Display**	Please specify							
15	**Reagents**	Please specify							
16	**Consumables**	Included for (1) year based on							
5	**Utilze up to date user interface technology**	Yes, PDA				Yes, PDA			
6	**Blood parameters can be measured using Test cards, no need for reagents**					Yes			
7	**Test Card Bar Coded**	Yes				Yes			
8	**Measurement**	Measurement can be done within 30 sec or less, without need to priming or calibration				Yes, specify			
9	**Lactate measurement**	Lactate measurement can be done without reagent “fluid”				Yes			
10	**Test cards**	Test cards can be stored at room temp and does not require fridge for storage				Yes			
11	**Possibility to connect mu**	Possibility to connect multi beds into on PDA				Yes			

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
12	**Connectivity of multi bed**	Connectivity of multi bed to one central SW for results documentations				Yes			
13	**Compact size**	Yes, approx “20X6X3” cm			Yes, approx “20X6X3” cm				
17	**Certification from the manufacturer:**								
17.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
17.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
17.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
17.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
17.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
17.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
17.7		Final operating test by manufacturer							
17.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
17.9		Technical support from the manufacturer incase the agent or distributor doesn’t response when needed.							
18	**Maintenance:**								
18.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
19.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
18.3		application software and interface connection Included.							
18.4		spare parts list with code NO							
18.5		Including maintenance and calibration tools.							
19	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
14	**Power**	220V/60Hz				220V/60Hz			
20	**Other specification**	Please specify other specification							
مواصفات جهاز قياس تشبع الدم بالأكسجين (محمول)					0				
NO	**Portable Pulse Oximater Hand Held**				0				
	Standard	**Requirements**							
	CU - 8	**Portable Pulse Oximater**							
1	**TYPE**	Portable / Stand-alone/transport/HAND HELD FOR ADULT/PEDIATRIC/INFANT							
		Transcutenous blood gases monitor + Heart rate							
		For Adult & Paediatric							
		Table top with its shelf							
2	**DISPLAYS**	SpO2, pulse rate, pulse strength and/or signal, low battery, Volumes, alarm limits.							
3	**Type**	LCD/ with backlit LED SHOWING PARAMETERS & READINGS							
4	**Sp02 RANGE, %**	0-100							
		SpO2 1-100%							
5	**Accuracy, ,%**	< ± 2 %							
6	**PULSE RATE, bpm**	30-240							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Pulse rate 20-250 bpm approx.							
7	**PERFUSION INDEX AND/OR SIGNAL STRENGTH INDICATOR**					YES			
8	**RESPONSE TIME, sec**	Pulse to Pulse or time (Specify)							
9	**SETTLING TIME**	Pulses or time (Specify)							
10	**START-UP TIME, sec or pulses**								
11	**ALARMS:**								
		Alarm system for:							
		Audiable & Visual for low/high saturation & pulse rate							
12	**Audiovisual**	Yes							
13	**Visual**	Yes, Low battery							
14	**ALARM OVERRIDE**	Yes							
15	**Reactivation method**	Yes, after 2 mins.							
16	**Volume control**	Yes							
17	**SELF-TEST MODE**	Yes							
18	**Memory: up to 72 hours of data storage**					YES			
		Standard:							
		Sensors x2 for Adult & other one for Paediatric							
19	**PROBE TYPES**	YES REUSABLE (1 ADULT, 1 PEDIATRIC, AND 1 NEONATE)							
20	**Patient range**	Adult / Neonate/ Pediatric							
		power requirment: 200-240 V							
		Built in internal battery capacity not less than 2 hours.							
21	**Cable length, m**	Not less than1.5 m							
22	**BATTERY BACKUP :**								
23	**Rechargeable battery**	Yes, Specify the type							
24	**Low battery notice**	Yes							
25	**Rechargeable time, hr**	Specify							
26	**Battery life, hrs**	Specify							
27		The unit should operate on batteries as well as AC electricity, with automatic battery charging while in use.				YES			
28	**The unit shall operate on batteries**					YES			

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
29	**battery type**	Specify							
30	**VAC**	220 V							
31	**CURRENT**	13 A							
32	**FREQUENCY**	60 Hz.							
33	**PLUG TYPE**	3 Pin British							
34	**UNIT COMPLETE WITH FULL ACCESSORIES**					Yes			
35	**IMPORTANT NOTE:**	Please specify whether accessories are standard or optional, otherwise they will be considered standard.							
		Service manual							
		Operation manual							
		Service/ maintenance and technical documents inclusive of schematics, component diagrams, trouble shooting and voltage/ wave form checks, diagnostics/ error codes and their interpretations, spare parts ordering information etc.							
		Recommended spare parts list with prices & validity must be provided with the offer							
		Installation & Commissioning :							
		2 Years comprehensive warranty, from the date of installation and commissioning							
		User / Nurses training, by Specialist from the Suplier.							
		Shall comply to CE marked or FDA Certificate .							
36	**MDMA**	Yes							

اجهزة قسم الطوارئ

ER Department

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم الطواري							
		ER Department							
		مواصفات عربة الانعاش القلبي الرئوي (كراش كارت)			0				
NO		Emergency Cart (Crash Cart with all accessories)			0				
	Standard	Requirements							
ICU-16		crash cart							
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA approval or CE marking							
	CU - 11	Emergency Cart (Crash Cart with all accessories)							
		For Storage and transportation of equipment and medications of emergency use							
		Designed with drawers and cupboard and two universal rails on both sides.							
4	Material of Construction	Heavy duty material and high quality							
3	MATERIAL	HEAVY DUTY QULAITY TYPE							
		Mobile On 10cm castors.							
2	CARDIO-RESPIRATORY RESUSCITATION SYSTEM	Mobile cart with lockable drawers and defibrillator transport tray (bracket)							
32	OTHER SPECIFICATI	Work surface and size shall accommodate the Defibrillator and all accessories mentioned.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Cart Dimension**								
5.1	**Height**	>140 cm							
5.2	**Depth**	60 - 70 cm							
5.3	**Width**	50 -60 cm							
6	**Drawer Dimension**								
6.1	**Height**	6 - 8 cm							
6.2	**Depth**	40 -50 cm							
6.3	**Width**	50 -60 cm							
7	**Castors**	Four casters ,two with brakes							
8.1		Height adjustment I.V. Pole							
8.3		Tilt Bin Organizer							
8	**Accessories**								
1	**CRASH CART**								
4	**ACCESSORIES**								
5	**Oxygen supply sys.**	Yes, 1 cylinder							
		Two Oxygen cylinders at the side of cart one of them with pressure regulator,oxygen							
7	**Oxygen flow meter**					Yes			
		flowmeter, humidifier , oxygen mask and silicon hose, the other with pressure regulator,							
		suction injector, 2 liters autoclavable collecting bottle with over float protection, and silicon patient hoses.							
6	**Suction unit portable, battery.**					Yes			
8	**Laryngoscope blades set**	Yes, Adult/Pedia/Neonate							
9	**Resuscitation bag**	Yes with mask for adult/pedia/neonate							
10	**ALL ACCESS NEEDED**					SPECIFY			
11	**Tourniquet**	Yes, Velcro fastener							
12	**Forceps**	Yes, 2 sets				Yes, 2 sets			
13	**Magill**	Yes				Yes			
14	**Artery**	Yes				Yes			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15	Dressing	Yes				Yes			
16	Suture	Yes				Yes			
17	Penlight	Yes				Yes			
18	Sphygmomanometer (aneroid)	Yes, with cuffs, (adult, & pedia.)							
19	Infusion pole	Yes, Telescopic							
20	CART								
21	Wheels	4 anti-static wheel, > 12.5 cm dia.							
22	Brakes	> 2				> 2			
23	Waste container	Yes				Yes			
8.4		Sharps Container							
24	Heart board	Yes				Yes			
25	Oxygen tank holder	Yes				Yes			
26	Medication tray	Yes				Yes			
8.2		Divided Drawer Tray							
27	Infusion pole receptacle	Yes				Yes			
28	Push handle	Yes				Yes			
29	Bumpers	Yes				Yes			
30	Top guard rail	Yes				Yes			
31	Drawers	Yes				Yes			
9	Warranty	Minimum of 2 years							
10	Other specification	Please specify other specification							
مواصفات جهاز التنبيب الرغامي					0				
NO	Laryngoscopes				0				
	Standard	Requirements							
ICU-11	Laryngoscopes								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
9	**Other Specifications**	FDA, ISO Approved.							
4	**Material of Construction**	Heavy duty Stainless Steel 304 or better and high quality							
8	**Bag for All Laryngoscopes**	Splash - Protected							
1	**TYPE**					Yes			
1	**FIBER OPTIC**					Yes			
2	**BLADES**	Yes							
2	**Macintosh blades**	Yes							
3	**Adult**	3, 4							
1	**Laryngoscope Set Adult**	Yes							
3	**Adult (Different Sizes)**	4 Different Sizes 1,2,3,4							
4	**pediatric**	2							
5	**Miller blades for sizes 00, 0, 1 for neonatal and infant**					Included			
6	**Handle**	2				2			
6	**Handle Sleeve**	Yes							
7	**ILLUMINATION**	LED				LED			
5	**Light type**	LED							
4	**ILLUMINATION**	With Incorporated Fiber Optic Light Carrier inside the Blade (Xenon Light)							
8	**Spare lamps**	5				5			
9	**Materials of handle**	Stainless steel				Stainless steel			
10	**Cleaning and sterilization for handle and blades**					specify			
11	**Case**	Included				Included			
12	**Power supply AA battery**					Yes			
13	**Charger with rechargeable battery**					Option			
5	**Rechargeable Battery Shell**	With High Power LED Technology, more than 50,000 lux, Lithium-ion batteries							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
14		Itemized Price for charger with battery				Yes			
15		Itemized Price for Lamp				Yes			
16		Itemized Price for handle				Yes			
17		Itemized Price for all blades				Yes			
7	**Charging Unit**	For 2 Rechargeable batteries with power adaptor (110-240 VAC, 60 Hz)							
6	**Accessories**								
18	**All Accessories (itemized**	All Accessories (itemized price)				Yes			
6.1		5 LED lampe spaer 3V							
6.2		4 set different size for adult							
6.3		3 set different size for pediatric							
6.4		1 box battery							
6.5		Career case for save the instrument							
7	**Warranty**	Minimum of 2 years							
8	**Other specification**	Please specify other specification							
مواصفات					0				
NO	**BAG AMBO ADULT & PEDIATRIC**				0				
	Standard	**Requirements**							
ICU-11	**Laryngoscopes**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
1		**A portable manually operated Ambu bag for adult and pediatric.**							
2		**shall have a pressure relieving valve and rubber bag (each suitable for the proposed age group)**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3		shall have One-way valves with 45cm H2O pop off with override							
4		shall have Tube for introducing oxygen: the oxygen concentration must be able to be as high as 45%							
5		shall be steam sterilizable							
6		Storage and carrying case shall be included							
7	Compliance with standards & legislation:								
8		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
9		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcomes and output of the equipment must be included.							
مواصفات جهاز التنبيب الرغامي					0				
NO	INTUBATION DIFFICULT VIDEO ADULT				0				
	Standard	Requirements							
ICU-11	Laryngoscopes								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
	APPLICATION								
1	APPLICATION	For documentation, teaching, monitoring and difficult direct tracheal intubation							
2	TYPE	Mobile							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3	TECHNICAL SPECIFICATIONS								
4	Imaging								
5	- Method	CMOS							
6	- Image display	LCD, high resolution (Touch screen preferred)							
7	- Size, inches (all sizes)					Specify			
8	Anti-fogging Mechanism					Yes			
9	Integrated high resolution camera					Yes			
10	Color Monitor Viewing					Yes			
11	Video Output/Recording Features					Yes			
12	Blade Angulation	60° (approx)							
13	Field of View	Specify							
14	Viewing Direction	Direct view							
15	Illumination Method	Scope tip LED light							
16	PHYSICAL SPECIFICATIONS								
17	Dimensions	Specify							
18	Weight	Specify							
19	Accessories								
20	Adult, Blades (disposable)					Yes			
21	- Patient weight	Specify							
22	- Blade length (tip to handle)					Specify			
23	- Blade Thickness (max)					Specify			
24	- Blade width (max)	Specify							
25	- Camera	Colored							
26	- Slim blade profile	Yes							
27	Adult, Size 3	Qty : 200 pcs / unit							
28	Adult, Size 4	Qty : 200 pcs / unit							
29	Intlock Blade								
30	- Disposable	Yes							
31	- Suction channel	Incorporated							
32	Mobile Stand	Yes							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
33	- Wheel & casters	Yes							
34	- Adjustable height stand					Yes			
35	- Cradle	Specify							
36	- Cobalt Cradle or hanger					Specify			
	Power supply								
37	Power supply	Rechargeable Battery							
38	- Type	Specify							
39	- Battery life, hrs	≥ 4							
40	Consumables	At least 3 months supply							
41	HIS Compatible.	Yes / Specify							
42	LATEST MODEL TO B	LATEST MODEL TO BE INSTALLED AS PER THE AVAILABILTIY FROM MANUFACTURER				Yes			
43	INSTALLATION & PRE - INSTALLATION	INSTALLATION & PRE - INSTALLATION, IF REQUIRED, SHOULD BE DONE BY THE COMPANY, Like civil, electrical, plumbing works etc….)				Yes, attach separate scope with details			
44	LINE POWER	Single Phase							
45	VAC	220 V							
46	CURRENT	13 A							
47	FREQUENCY	60 Hz.							
48	PLUG TYPE	3 Pin British							
49	UNIT COMPLETE WITH FULL ACCESSORIES					Yes			
مواصفات جهاز التنبيب الرغامي					0				
NO	INTUBATION FLEXIBLE SCOPE ADULT				0				
	Standard	Requirements							
ICU-11	Laryngoscopes								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3	**Safety standard**	FDA Approval or CE Marking							
1	**Intubation Flexible Scope**	Yes for Adult Patient							
2	**Insertion Tube**	50 Cm							
3	**Diameter**	4 mm							
4	**LED Light Source**	Included as battery operated module							
5	**Scope Configuration**	Can be connected to Camera Coupler							
6	**Sterilization**	Yes							
7	**Infection Control**	Unit must follow the Infection Control Regulations.							
مواصفات جهاز التنبيب الرغامي					0				
NO	**INTUBATION SET COMPLETE CASE**				0				
	Standard	**Requirements**							
ICU-11	**Laryngoscopes**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
1		FORCEPS, MAGILL, 24cm, adult (Qty: 1)							
2		FORCEPS, MAGILL, 19cm, child small (Qty: 1)							
3		FORCEPS, MAGILL, 16cm, child extra small (Qty: 1)							
4		(laryngoscope fiber) BLADE, Miller n°0, new born, reusable. (Qty: 1)							
5		(laryngoscope fiber) BLADE, Miller n°1, baby, reusable. (Qty: 1)							
6		(tube, endotracheal) GUIDE, size 3, L 50cm, tubes from 6.0 (Qty: 10)							
7		(tube, endotracheal) GUIDE, size 2, L 45cm, tubes 4.5-6.0 (Qty: 10)							
8		(tube, endotracheal) GUIDE, size 1, L 45cm, tubes 3.5-4.5 (Qty: 10)							
9		ESCHMANN AIRWAY EXCHANGE GUIDE, BUGIE, 15FR, 70cm, single use (Qty: 10)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز التنبيب الرغامي					0				
NO	INTUBATION SYSTEM FLEXIBLE VIDEO TOWER				0				
	Standard	Requirements							
ICU-11	Laryngoscopes								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
1	Intubation Tower	On Mobile Tower							
2	24" HD Flat Monitor	Included							
3	4K Camera CCU	Included							
4	LED Light Source	Included							
5	Light Fibers	Included Qty : 1							
6	Flexible Scope								
7	Qty : 1 for Adult	Yes							
8	Qty : 1 for Pediatric	Yes							
مواصفات جهاز التنبيب الرغامي					0				
NO	INTUBATION DIFFICULT VIDEO				0				
	Standard	Requirements							
ICU-11	Laryngoscopes								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
1	TYPE	Video Laryngoscope For difficult airway intubation							
2	Design	light weight & portable							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3		The system shall be based on the latest technological advances in difficult intubations				YES			
4		The unit shall be designed to provide a clear view of the vocal cords during intubation				YES			
5		The unit shall simplify intubation of the difficult airway				YES			
6		Trauma Airway				Yes			
7		Range in blade sizes allow coverage patient weights				Yes			
8		It shall have 60° angled blades				YES			
9		It should have pre-shaped stylet for quick intubation process				YES			
10		It should utilize minimum force for intubation				YES			
11		It should have anti-fog feature				YES			
12		The unit shall have integrated high resolution camera at good Position on blade to protect from blood and secretion				YES			
13		The unit shall mount on mobile carts and castors				YES			
14		Intubation of cervical spine immobilization				Yes			
15		Difficult Airway management and routine intubation				Yes			
16	**Screen Size not less than 7 inch**	LCD OR TFT							
17	**Blades Size**								
18	**SIZE 2 REUSABLE**	Qty:1 ITEMIZED (PRICE NOT TO BE INCLUDED IN OFFERED UNIT PRICE)							
19	**SIZE 2 SINGLE USE**	QTY : 80 MUST BE AN OPTIONAL ITEMIZED PRICE							
20	**SIZE 3 REUSABLE**	Qty:1 ITEMIZED (PRICE NOT TO BE INCLUDED IN OFFERED UNIT PRICE)							
21	**SIZE 3 SINGLE USE INTEGRATED CAMERA & LIGHT SOURCE WITHIN THE BLADE**	QTY : 80 MUST BE AN OPTIONAL ITEMIZED PRICE							
22	**SIZE 4 REUSABLE**	Qty:1 ITEMIZED (PRICE NOT TO BE INCLUDED IN OFFERED UNIT PRICE)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
23	**SIZE 4 SINGLE USE INTEGRATED CAMERA & LIGHT SOURCE WITHIN THE BLADE**	QTY : 80 MUST BE AN OPTIONAL ITEMIZED PRICE							
24		**Made of medical grade plastic or stainless steel for less trauma handlingo teeth and soft tissue and easy**				Specify			
25	**Built in LED light for illumination**					Yes			
26	**Rechargable Battery on system**					Yes			
27	**Stylet**	Qty:3							
28	**Accessories**	Any accessories, options and consumable items necessary to operate the offered system(s) must be clearly identified and priced separately							
مواصفات جهاز					0				
NO	**ECG 3 CHANNELS**				0				
	Standard	**Requirements**							
ICU-11									
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
1		**Simultaneous 3 Channel ECG recording with 12 lead simultaneous acquisition**							
2		**Should have visual alarms to include: Loose contact, lead fail, low battery, system status and artifacts**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3		**Should have a digital display of 3 channel ECG. The screen shall be large and easy to read. And more than 6 inches**							
4		**ECG Machine should have 3 modes of operation – Automatic, Manual & Rhythm (Not Arrhythmia)**							
5		**Should have a maintenance free digital thermal array printer**							
6		**Printer should work with standard thermal paper(should be available in Local Market)**							
7		**Printer should be able to print ECG report and should have on/off selection**							
8		**ECG components to be measured should include: PR, PQ, QT, ATC, P, QRS, T, HR**							
9		**Should be compact and portable, and should have carry handle for portability.**							
10		**Should have patient data capture for Name, ID no., age, sex, weight and height**							
11		**Should have ECG lead annotation facility**							
12		**Equipment should have sufficient battery backup for taking minimum 100 ECG without AC power**							
13		Should supplied with 2 patient cable sets, 8 clip on electrodes,12 chest electrode with silicon rubber bulb, 12 packets / Rolls of recording paper & 1 bottle of jelly.							
14		**Should operate on mains(220v-50Hz) and rechargeable battery (built in)**							
15		**Chart speed should be 5, 10, 25, 50 mm/sec**							
16		**Should have defibrillation protection.**							
17		**CMRR should be >90dB or the Sampling rate should be > 7000**							
18		Should have a battery capability with an operating time on battery of ≥1 hour							
19		Frequency response 0.05Hz to 129 Hz.							
20		Should have a digital filter for AC and EMG.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
21		Bidder shall specify the exact dimension and weight for the offered equipment							
22		Compliance with standards & legislation:							
23		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
24		**Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.**							
25		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
26		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
27		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
مواصفات نقالات المرضى					0				
NO	**Patient Stretcher**				0				
	Standard	**Requirements**							
1.	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
4	**Design**	Heavy duty, compact design and high quality finishing							
5	**Construction & features**	Constructed from steel frame epoxy powder coated painting							
5.1		Lever operated back raise							
5.2		Sliding aluminum or chrome plated steel bed side rails							
5.3		Mattress 7cm urethane foam approx. mounted on 15cm total locking castors							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5.4		Revolving plastic bumpers on all four corners diam.150-200 mm approx for protection							
5.5		Trendelenburg position							
5.6		Double hook I.V. rod is included							
5.7		Crank-operated high-low position							
5.8		Oxygen tank holder							
6	**Dimension:**								
6.1	**(L x W), cm**	(210 x 80).							
6.2	**Height, cm**	Height adjustment by hedrulic system (50 – 120)							
7	**Warranty**	Minimum of 2 years							
8	**Other specification**	Please specify other specification							
مواصفات عربة نقل المرضى مع الحواجز الجانبية					0				
NO	**patient Transfer with side rails**				0				
	Standard	**Requirements**							
	CU - 12	**patient Transfer with side rails**							
		St.St construction,painted with elecrostatic powder with removable top, with mattress and IV stand, four castors five inch diameter two of them with brakes .							
		Guiding Dimensions of trolley : 200 * 60 * 85 cm							
1	**5 WHEEL STEERING**					Yes			
2	**SIDE RAILS**					Yes			
3	**X-RAY CASSETTE POSITIONING CAPABILITY**					Yes			
4	**TENTE CASTERS**	8 inch							
5	**COLLAPSIBLE SIDE RAILS**					Yes			
6	**TRENDELEMBURG / REVERSE TRENDELENBURG**					Yes			
7	**FOOT CONTROL**	Hydraulic							
8	**IV SOCKETS**	Standard 3/4 inch							
9	**LARGE STORAGE AREA**					Yes			
10	**O2 TANK STORAGE LOCATION**					Yes, 2			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11	FULL PERIMETER BUMPERING					Yes			
12	4 TRANSPORT STRAP LOCATION					Yes			
13	STANDARD MATTRESS	(squared foot end)			(squared foot end)				
14	LOW AND HIGH POSITION					Yes			
15	TRENDELENBURG	15 DEGREE APPROX							
16	REVERSE TRENDELENBURG	15 DEGREE APPROX.							
17	OVERALL DIMENSIOI	Specify							
18	HEAD ELEVATION	controlled							
19	CASTERS :								
20	- Diameter, cm (in)	20.3 (8) Approx							
21	- Brake	Yes							
22	MAXIMUM PATIENT WEIGHT, kgs	≥ 200 kgs							
23	Overall length, cms	210 cm.							
24	Overall width	85 cm.							
25	ACCESSORIES:								
26		- IV transport				Yes /Specify			
27		- Patient tray				Yes /Specify			
28		- Utility sheilf				Yes /Specify			
29		- Restrain straps				Yes /Specify			
30		- Oxygen tank				Yes /Specify			
31		- Liquid O2 tank holder				Yes /Specify			
32		- Infusion support system				Yes /Specify			
33		- Side rail covers				Yes /Specify			
34		- Arm board				Yes /Specify			
35		- Detachable foot board				Yes /Specify			
36		- Mattress pad				Yes /Specify			
37		- Lateral X-ray cassette holder				Yes /Specify			
38		- Chart holder				Yes /Specify			

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز الاضاءة الطبية					0				
NO	Medical Torch				0				
	Standard	Requirements							
ICU-15	Medical Torch								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA approval or CE marking							
4	Type	High lux and cool diagnostic							
5	Design								
5.1		Pen light with pocket clip, press activator							
5.2		Made from metal (Stainless Steel)							
5.3		Supplied with batteries							
6	Battery life “h”	Please specify							
7	Power supply	Battery (1 box battery)							
8	Other specification	Please specify other specification							
مواصفات عارض الأشعة					0				
NO	X-Ray Viewer Double				0				
	Standard	Requirements							
ICU-18	X-Ray Viewer Double								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA approval or CE marking							
4	Type	Wall mounted X-Ray film viewer							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Construction**	made from acrylic translucent diffusing materials . screen thickness ≥ 3mm approx. automatic gripping mechanism included							
6	**Functionality**	For general radiology applications. Appropriate for viewing a board band rang of film sizes							
7	**Viewing panel size (L x W) , cm**	(35 x 43)							
8	**Light**	LED							
9	**No. of lamps**	Please specify							
10	**On – Off Switch**	Included							
11	**Power supply**	220 V / 50 Hz							
مواصفات أجهزة الكمبيوتر والطابعات					0				
NO	**Computer Desktop With Printer**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
	CU - 13	**Computer Desktop With Printer**							
		Microsoft Windows 10 Home Operating System or better							
		1 TB capacity at least							
		CPU speed of 3.70 GHz at least							
		Processor Intel Core i7-7700T							
		12 GB of memory or better							
		Shared screen memory 4GB or better							
		2 Serial, 2 USB, 1PS2 Mouse, 1PS2 Key, 1 Parallel,1FDD, 2IDE, Porys.							
		17” Color Monitor Digital Flat.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		CD:Combo							
		A/E PS.2 Key board							
		PS/2 Scroll Mouse + Mouse pad							
		3.5” F.D.D.1.44 MB							
		Full Duplex 3d Sound Card							
		117 W Speaker							
		56K Internal Fax Modemor better							
		Preinstalled windows XP &anti virus							
		with UPS, power Stabilizer 900VA							
		WITH Laser Printer B & W Laser Printer, 30 Pages/min.							
مواصفات عربة (ترولي) الأدوات الجراحية					0				
NO	Surgical Trolleys - Drawer Units				0				
	Standard	Requirements							
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
	CU - 16	Surgical Trolleys - Drawer Units							
		Steel Surgical Trolleys White 915 x 780 x 470 mm							
		around hospitals							
		Rounded and cut-away shelf corners for safety and ease of cleaning							
4	SHELVES								
		Shelves can be reversed to provide flush working surface							
		Anti-static buffers prevent shelves from moving,stainless steel shelves							
		Mounted on 75mm diameter anti-static swivel castors							
		storage for instruments							
		Keep equipment out of sight and dust-free							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Available in stainless steel or white powder coated steel							
6	**DRAWERS**								
		Drawers measure 90 mm high, 350 mm wide and 450 mm deep							
مواصفات عربة (ترولي) المجارحة					0				
NO	**CART DRESSING (Trolley, Dressing)**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
1	**Safety standard**	FDA approval or CE Marking							
	CU - 14	**CART DRESSING (Trolley, Dressing)**							
2	**Design**	Heavy duty, compact design & high quality finishing							
3	**CONSTRUCTION**	Rectangular tube frame, Made from S/S or Equiv. that is corrosion resistance & easy to clean. Rugged construction to with stand mechanical shocks caused by movement over uneven surfaces							
4	**COMPARTMENT**	Please Specify .							
		Mobile On Swivel Castors 100mm.							
13	**CASTORS**	4-antistatic castors with 2 efficient braking mechanism							
		Include The Followings:.							
		Dressing Drum Holder.							
		Thermometer Holder.							
		Forceps Container Holder.							
		Instrument Tray.							
5	**WORKING TRAY**	pull-out & made from S/S							
10	**TRAY**	Swivel mounted & Made from S/S or Equiv							
		Collapsible Table.							
14	**Table Top surface**	Not less than 900 mm x 600 mm approx. Made from S/S or Equiv.							
15	**Table top height**	Not less than 1500 mm approx.							
		Drawer.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
6	**DRAWERS**								
6	**DRAWERS**	5 utility drawers with partitions to store dressing instruments, gauze etc?.							
7	**CUPBOARD**	One included							
8	**ADJUSTABLE SHELF**	Please Specify							
9	**WASTE RECEPTACLE**	Removable with locking mechanism							
11	**BUCKET WITH LID**	Available within fixture & made from S/S or equiv.							
12	**AMPOULE OPENER**	Included							
16	**BUMPERS**	Revolving Bumpers							
17	**Push Handles**	Full-width hand rail on both sides							
18	**Guard rail**	3-sided made from S/S or equiv.							
19	**Accessories & Options**								
19		Any available options shall be quoted separately							
		Sponge Bowl.							
		Dressing Jar.							
		Stainless Steel Made.							
20	**Catalogues**	Original/colored detailed catalogue stating all the above mentioned specifications should be submitted with offer							
21	**OTHER SPECIFICATION**								
مواصفات تروللي (عربة) الأدوات والمستلزمات					0				
NO	**Instrument Trolley**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
1		**STAINLESS STEEL INSTRUMENT TABLE**							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
4	**Material of Construction**	Heavy duty Stainless Steel 304 or better and high quality							
4	**NUMBER OF SHELVES**								
5	**Shelves**	Two shelves in the top and bottom , edge around the shelves .							
2	**DIMENSION**	**SPECIFY**							
6	**Dimensions**								
6.1		Depth = 45 Cm Approx.							
6.2		Width = 60 Cm Approx.							
6.3		Height = 75 Cm Approx.							
7	**Handle bar**	Included (on short sides of the trolley).							
3	**CASTORS**	**4 MEDIUM SIZE CASTORS**							
8	**Castors**	Four casters ,two with brakes							
10	**Warranty**	**Minimum of 2 years**							
5	**TABLE TOP**	FLUSHED							
9	**Accessories & options**	Please specify							
6	**OTHER SPECS**	SPECIFY							
11	**Other specification**	Please specify other specification							
مواصفات					0				
NO	**CART MEDICATION**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
		CART MEDICATION							
1		**Mobile unit, impact resistant plastic top with raised edges.**							
		Drawers unit with large and small drawers							
2	**Hard Top Surface**	Yes.							
3		**Swing out side storage unit with tray divider.**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Sharps container holder, and tilt out bin.							
4	**Multi-purpose overbridge unit .**								
		With universal clamp, small. large metal bin, label/tape dispenser, & bins w/ cover.							
5	**Dual-sided patient drawer**	Specify							
6	**Waste Container**	Yes							
7	**Adjustable Dividers**	Yes							
8	**Writing Surface**	Yes							
9	**Removable Trays**	Yes							
10	**Electronic Locking**	Yes							
11	**Cart Bumper**	Yes.							
3	**CASTORS**	**4 MEDIUM SIZE CASTORS**							
12	**Four castor ,two of them with lock**	Yes.							
13	**other specifications**	FDA, CE OR OTHER SPECIFY							
مواصفات عربة نقل الأدوات والاقمشة في العناية					0				
NO	**CART UTILITY , General Purpose cart. (Utility Trolley with 2 shelves and guard rail on each shelve)**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
		CART UTILITY , General Purpose cart.							
1	**CART UTILITY , General Purpose cart.**								
	CU - 15	**Utility Trolley with 2 shelves and guard rail on each shelve**							
		Fully made from Stainless Steel . Mobile on 4 antistatic castors, 2 of which shall have foot brakes							
7	**Capacity : 80-100KG.**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	DIMENSION								
11	**Dimension : approx.. 700x 400x 850 mm**								
8	**Top and shelves made of 18 gauge Stainless steel with edges bent and hemmed.**								
9	**16 gauge 25mm (1") O.D**								
10	**Stainless steel legs**								
		With one drawer for treatment material							
		Know down design to optimize transportation cost							
2	**Features and Specifications :**								
3	**Supported by four uprights with tops welded closed**								
4	**Four-sided guards rails**								
5	**Tubular Strong Frame**								
16	**Antistatic**								
	CASTORS								
14	**swivel castors**								
15	**76mm (3") ball bearing .**								
		Mobile on 4 antistatic castors, 2 of which shall have foot brakes							
17	**locking Capability.**								
18	**Directional**								
6	**Worktop and handles :18 gauge S.S.**								
	shelves								
12	**Three shelves**								
		with 2 shelves and guard rail on each shelves							
13	**Integrated push handles**								
19		**A sample of items, including its parts shall be submitted for approval before an order is placed ,Approved samples shall be used as standards of finish and workmanship.**							
	مواصفات دولاب التخزين				0				
NO	**Cabinet Storage**				0				

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment and drawing							
3	**Safety standard**	FDA approval or CE marking							
		CABINETS STORAGE INSTRUMENT							
7		**The offered equipment shall have an approved international certificate(CE,FDA,TUV, etc.)**							
		CABINETS STORAGE INSTRUMENT							
4	**Design & quality**	Heavy duty, compact design and high quality							
1		**Heavy duty, all-welded 20 gauge stainless steel construction**							
5	**Construction**	Stainless steel 304							
6	**Type**	Free standing							
4	**SHELVES**								
7	**Shelves**	Included min. five shelves							
2		**Five removable, adjustable (1/2" increments) stainless steel shelves**							
8	**Doors**	Glass doors with stainless steel frame							
3		**Full height, stainless steel doors with glass panes**							
	DIMENSION								
9	**Dimensions**	(120 W x 45 D x 180 H) cm approx.							
6		**Dimensions: 77.25" H x 16" Deep x (24" W Single model) or (36 , 48" TwinWide model)**							
10	**Top**	2 wide opening hinged doors, set in sealed frames with structured glass embedded in rubber with lock							
11	**Bottom**	2 hinged sheet S.S. doors with lock, 2 adjustable glass shelves							
4		**Convenient T-handle door latches with lock**							
5		**Adjustable leveling glides**							
	Warranty								
12	**Warranty**	Minimum of 2 years							
13	**Other specification**	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز					0				
NO	CABINET MEDICATION				0				
	Standard	Requirements							
ICU-11	Laryngoscopes								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
		CABINET MEDICATION							
1	APPLICATION	Storage of MEDICATION							
1		يستخدم لحفظ الادوية.				نعم			
3		مدهون بدهان حراري غير قابل للصدأ				نعم			
4		يحتوي علي قفل.				نعم			
5		شكل عصري وعملي				نعم			
6		وجود فهرسة				نعم			
4	NUMBER OF SHELVES								
2		يحتوي على ٤ أدراج بحد أدنى.				نعم			
10	Warranty	Minimum of 2 years							
7		تقديم ضمان شامل لا يقل عن ٥ سنوات				نعم			
8	Doors	Glass doors with stainless steel frame							
8		الابواب زجاجية				نعم			
	DIMENSION								
9	الابعاد	طول ١٠٠ سم، عرض ٥٠ سم ،ارتفاع ١٨٠ سم							
مواصفات					0				
NO	CABINET NARCOTIC				0				
	Standard	Requirements							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
		CABINET NARCOTIC							
1	**APPLICATION**	Storage of Narcotics							
2	**FINISH**	Enamelled							
8	**Doors**								
3	**NUMBER OF DOORS**								
4	**door type**	piano hinge							
5	**locks**	Yes separate for each door							
	DIMENSION								
6	**DIMENSION**	350mm x 250mm x 200mm H. approximately							
8	**ALARMS**								
9	**visual**	Yes							
10	**audible**	Yes							
11	**POWER**								
12	**vac**								
13	**hz**								
7	**OTHER SPECIFICATION**								
مواصفات اسطوانات الأكسجين سعة ٤٠ لتر مع المنظمات					0				
NO	**Oxygen Cylinder 40 Liters With Regulator O2 with Flowmeter and Humidifier**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
	CU - 17	**Oxygen Cylinder 40 Liters With Regulator O2 with Flowmeter and Humidifier**							
1	**TYPE**	CYLINDER O2							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
2	**SIZE**								
		Oxygen Cylinder, 40 liters (Bull Nose British standard)							
		Regulator O2 with Flowmeter and Humidifier							
3	**Regulator**	Yes							
4	**Humidifier & mask**	Yes							
5	**Connections**	Yes							
6	**OTHER SPECIFICATION**								
	CYLINDER O2								
1		**Material of construction : High tensile steel or aluminium**							
2		**Colour coding of the shoulders is white**							
3		**Nominal contents (litres): 340**							
4		**Nominal cylinder pressure (bar):137**							
5		**Valve outlet connection: Pin index**							
6		**Valve operation: Key**							
7		**Dimensions L x D (mm): 535 x 102**							
8		**Water capacity (litres): 2.3**							
9		**Nominal weight full (kg): 3.9**							
10		**The offered cylinder shall respect all the international safety code and standards.bidder to specify**							
11	**Regulator specification:**	**Regulator specification:**							
12		**Nickel plated Pin Index inlet connection**							
13		**White or Black acetal plastic tubing nipple on flowmeter**							
14		**Acetal spindle on flowmeter**							
15		**Robust brass body construction for prolonged service life**							
16		**Inlet Pressure 200 bar +/–50 bar maximum**							
		Output pressure: 4bar +/- 0,3							
17		**Maximum Flow Rate :15 l/min**							
		Flow range: From 0 to 15 L/min							
18		**Flow range: 0, ½, 1, 2, 3, 4, 6, 8, 10, 12, 15 l/min**							
		Suitable for all types of fitting: wall outlet, trolley.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11	humidifier, specification:	humidifier, specification:							
		Autoclavable unbreakable bubble humidifier, 500 ml							
		Clear vision of bubbles							
		Supplied With Tubing And Face Mask							
19		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
7	OTHER SPECIFICATION								
مواصفات أدوات شق الرغامة الجراحي للكبار					0				
NO	Tracheostomy set surgery for adult				0				
	Standard	Requirements							
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment and drawing							
	CU - 18	Tracheostomy set surgery for adult							
		Consist of :							
	1	Instruments Tray 320 x 240 x 50mm 1							
	2	Kidney Dish 250mm 2							
	3	Gallipot 6 ozs 1							
	4	Gallipot 4 ozs 2							
	5	Towel Clips 3 1/2" 6							
	6	Sponge Holding Fcps Str 180mm 1							
	7	McIndoe Dissecting Forceps Serr 150mm 1							
	8	Gillis Dissecting Forceps 1 x 2 Teeth 1							
	9	Dissecting Forceps Serrated Jaws 130mm 1							
	10	Dissecting Forceps 1 x 2 Teeth 130mm 1							
	11	Scalpel Handle Size 4 1							
	12	Scalpel Handle Size 3 1							
	13	Mayo Scissors Curved 5 1/2" 1							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	14	Mayo Scissors Str 5 1/2" 1							
	15	Metzenbaum Scissors 5 1/2" 1							
	16	Mosquito Artery Forceps Curved 5" 6							
	17	Mosquito Artery Fordeps Str 5" 2							
	18	Allis Tissue Forceps 6" 2							
	19	Tracheal Dilator 5 1/2" 1							
	20	Mayo Hegar Needle Holder 5 1/2" 1							
	21	Tracheal Retractor Double Prong Blunt 6 1/2" 2							
	22	Kocker Retractor Blade 25mm x 6mm, 8" 2							
	23	Mato Safety Pin 14cm 1							
	24	Magil Sucker 1							
مواصفات أدوات شق الرغامة الجراحي للأطفال					0				
NO	**Tracheostomy set surgery for adult**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment and drawing							
3	**Safety standard**								
	CU - 19	**Tracheostomy set surgery for children**							
		Consist of :							
	1	Instruments Tray 320x240x50mm 1							
	2	Kidney Dish 250mm 2							
	3	Gallipot 6ozs 1							
	4	Gallipot 4ozs 2							
	5	Towel Clips 90mm 4							
	6	Forester Sponge Holding Fcps Str180mm 1							
	7	McIndoe Dissecting Forceps Serr 150mm 1							
	8	Gillies Dissecting Forceps 1 x 2 Teeth 150mm 1							
	9	Scalpel Handle Size 3 1							
	10	Metzenbaum Scissors Str Blt 145mm 1							
	11	Surgical Scissors Sh/Sh Str 130mm 1							
	12	Baby Metzenbaum Scissors Cof 5" 1							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	13	Mosquito Artery Forceps Cvd 125mm 4							
	14	Adson Dissecting Forceps Non-Tooth 120mm 1							
	15	Adson Dissecting Forceps Tooth 120mm 1							
	16	Allis Tissue Forceps 5 x 6Th 150mm 2							
	17	Tracheal Dilator Child 120mm 1							
	18	Crilewood Needle Holder 150mm 1							
	19	Tracheal Retractor single Hook Blunt 2							
	20	Desmarres Retractor Blade 12 mm x 16 mm 2							
	21	Mayo Pin 140mm 1							
	22	Magil Sucker 30mm 1							
	23	Senn Miller Retractor 3 Sh Pr150 mm 2							
مواصفات جهاز					0				
NO	GLUCOMETER				0				
	Standard	Requirements							
ICU-11									
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
		GLUCOMETER							
1		**Microprocessor-controlled, hand held glucose meter to measure blood glucose levels.**							
2		**Should be IVD marked (In Vitro Diagnostic Medical Device).**							
3		**Measuring range: 20-500mg/dl Approx.**							
4		**Must give accurate results within Approx. 15 seconds.**							
5		**Must store at least the 20 results.**							
6		**Must be supplied with 200 strips.**							
7		**Must be supplied with a virtually pain-free blood sampling tool (lancing device).**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
8		Specify the shelf life of strips (vial closed, after opening the vial)							
9		Must be supplied with long-life batteries.							
10		Unit must have an automatic shut off to protect battery life							
11		Unit must have low battery warning							
12		Must have a case for storage.							
13	Compliance with standards & legislation:								
14		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
15		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
	accessories								
16		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
مواصفات جهاز					0				
NO	WHEELCHAIR STANDARD SIZE 20				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		WHEELCHAIR STANDARD SIZE 20							
1		Aluminium wheelchair				Yes			

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
2		Powder coating finish black				Yes			
3		Foldable backrest, aluminium folding mechanism				Yes			
4		Flip back armrest				Yes			
5		Detachable footrest, heel loop				Yes			
6		Nylon black upholstery				Yes			
7		Front castor 8"x1" solid tire				Yes			
8		Steel brake				Yes			
9		Rear wheel 24" x 1 3/8" PU tire , ,				Yes			
10		Quick release rear axle				Yes			
11		aluminium hand rim				Yes			
12		brakes				Yes			
13		Anti tipper				Yes			
14		5 Cm seat cushion				Yes			
15		Capacity 120 Kg				Yes			
16		Wieght 14 Kg				Yes			
مواصفات جهاز					0				
NO	WHEELCHAIR STANDARD SIZE 24				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		WHEELCHAIR STANDARD SIZE 24							
1		Aluminium wheelchair				Yes			
2		Powder coating finish black				Yes			
3		Foldable backrest, aluminium folding mechanism				Yes			
4		Flip back armrest				Yes			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5		Detachable footrest, heel loop				Yes			
6		Nylon black upholstery				Yes			
7		Front castor 8"x1" solid tire				Yes			
8		Steel brake				Yes			
9		Rear wheel 24" x 1 3/8" PU tire , ,				Yes			
10		Quick release rear axle				Yes			
11		aluminium hand rim				Yes			
12		brakes				Yes			
13		Anti tipper				Yes			
14		5 Cm seat cushion				Yes			
15		Capacity 150 Kg				Yes			
16		Wieght 14 Kg				Yes			
مواصفات جهاز					0				
NO	WHEELCHAIR MRI COMPATIBLE				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		WHEELCHAIR MRI COMPATIBLE							
1		Heavy duty, 3T MRI compatible folding wheelchair for inter-hospital transport of adult patients to the MRI scanning room, with the following specifications:							
2		All materials including fasteners and bearings are either non-magnetic metals or special polymers, compatible with MRI up to 3 tesla							
3		User propelled wheels mounted into the rear of both side frames.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
4		Swivel castors should be mounted to the front of both side frames.							
5		The user propelled wheels should have a push rim attached.							
6		Each of the user-propelled wheels should have toggle or lever wheel locks							
7		Wheels shall be tubeless or air free.							
8		The wheelchair should have collapsible seat and backrest							
9		The wheelchair should have armrest.							
10		Footrests should either flip-up or fold away and should have impact guards.							
11		The wheelchair should have anti-tip devices and should not tip on inclines with slopes of up to 15°.							
12		The wheelchair should be easy to maneuver in confined spaces.							
13		The wheelchair upholstery should pass applicable standards for flame resistance.							
14	The following safety features should be incorporated								
15		Anti tip mechanism							
16		Heavy duty construction							
17		Anti folding mechanism to prevent accidental folding during patient use							
	maximum patient weight capacity								
18		Specify maximum patient weight capacity							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	مواصفات جهاز				0				
NO	OTOSCOPE TABLETOP				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		OTOSCOPE TABLETOP							
1	Fiber optics Otoscope	Yes.				Yes.			
2	3.5V Bulb type (Xenon)	Yes.				Yes.			
3	Magnification more than 2.5x	Yes.				Yes.			
4	Insuflation port	Yes.				Yes.			
5	Insufflation Bulb	Yes.				Yes.			
6	instrument housing	Specify.				Specify.			
7	Smart design	Yes.				Yes.			
8	Diameter of ear-reusable specula	2.5, 3, 4, and 5mm approx.							
9	Disposable Tip for adult and pediatric	200 tips for each approx.							
10	Three Spare bulb	Yes.							
11	Battery rechargeable	LI-ION							
12	Charger table top	Yes.							
13	Hard case	Specify.							
14	Power Supply 220 VAC / 60 HZ	Yes.							
15	FDA or CE approved	Yes.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	مواصفات جهاز				0				
NO	OTOSCOPE WALL MOUNTED				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		OTOSCOPE WALL MOUNTED							
1	TYPE	Wall mounted							
2	One handle	Yes							
3	LED or Xenon	Yes							
4	Magnification	2.5 x approximately							
5	Reusable tips set	10 pcs from each size (1.75, 2.5,4)mm							
6	Disposble tips set	Yes Qty: 1000							
7	Otoscope Specula Dispenser	Yes							
8	Lamp 2.5 or 3 volts	Yes							
9	Spare Lamp	3							
10	Cable built in	Yes							
11	Length Of cable	3 meter							
12	Power Supply	220 VAC 60HZ							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز					0				
NO	COUCH TREATMENT EXAMINATION WOODEN				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		COUCH TREATMENT EXAMINATION WOODEN							
1	MATERIAL	Wood and padded top							
2	APPROX. DIMENSIONS	8L x 30D x 31H.							
3	OTHER SPECIFICATION	78 x 30 vinyl upholstered top with 2 high-density foam padding. Oak laminate storage cabinet with two 2-door cabinets and adjustable shelf. Doors feature concealed European hinges with self-closing feature. Middle section has convenient							
مواصفات جهاز					0				
NO	DIAGNOSTIC SET WALL MOUNTED				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		DIAGNOSTIC SET WALL MOUNTED							
1	SPHYGMOMANOMETER ANEROID	INCLUDED							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
2	**Reusable tips set**	Four pcs.							
3	**Disposble tips set**	Yes							
4	**Handle 2.5 volts**	Yes							
5	**Magnification**	2.5 X approximately							
6	**OPHTHALMOSCOPE**	Yes							
7	**Diopter corrections, D**	-25 to + 40 approx.							
8	**Filters**	Red free							
9	**Diagnostic beams**	Two							
10	**BATTERY OPERATED**	Yes, rechargeable							
11	**HARD CASE**	Yes							
12	**CHARGER**	Yes							
13	**Infrared thermometer**	Yes							
14	**Sphygmomanometer**	Yes							
15	**OTHER SPECIFICATIONS**								
16	**INFLATION PRESSURE, mm Hg**	300 mm Hg							
17	**CUFF SIZES**	Adult,Pediateric, Velcro cuff							
18	**SYSTOLIC, mm Hg**	0-240 approx.							
19	**DIASTOLIC, mm Hg**	0-130 approx.							
20	**THERMOMETER DIGITAL**								
21	**CONFIGURATION**	Handheld with plug in probe, table top/wall mounted holder							
22	**CONTINUOUS CAPABLE**	Yes							
23	**OPERATIONAL MODE**	Predective/monitor							
24	**TEMPERATURE**								
25	**Screen Display type**	LCD , TFT or other, Specify.							
26	**Range, C**	SPECIFY							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
27	**Accuracy, C**	SPECIFY							
28	**Response time, sec**	SPECIFY							
29	**CONTROLS**	On/Off and automatic shut off							
30	**ALARMS/INDICATORS**								
31	**Visual**	Final temp., Lo & Hi temp., calibration.							
32	**Audible**	Final temp., Lo & Hi temp., calibration.							
33	**PROBE ASSEMBLY**								
34	**Number**	2 Oral/rectal							
35	**Type Material**	Stainless steel or plastic, specify.							
36	**Storage well**	Yes							
37	**PROBE COVERS**								
38	**Type**	Oral, rectal or both together, specify							
39	**Material**	low density polyethelyne							
40	**Removal**	Eject button.							
41	**Storage on unit**	Yes							
42	**POWER SUPPLY**	Battery Operated							
43	**Battery Type**	Rechargeable or single use battery, Specify.							
44	**Low Battery Indicator**	Visual or Audible, Specify.							
45	**Operating time**	> 300 hrs							
46	**For rechargeable battery, charger power requirement**	220Volt, 60 Hz.							
47	**OTOSCOPE**	Yes							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز					0				
NO	THERMOMETER DIGITAL HANDHELD				0				
	Standard	Requirements							
ICU-11									
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
		THERMOMETER DIGITAL HANDHELD							
1		**Digital Thermometer safe for all ages and shall be for oral, underarm, or rectal use.**							
2		**Should use disposable probes for measurement**							
3		**Fast, accurate readings**							
4		**Temperature accuracy: 0.1°C**							
5		**Automatic shut-off feature**							
6		**Large LCD display for reading**							
7		**Should signal after temperature taken**							
8		**Safe to use, with no glass and mercury-free**							
9		**Should have an auto memory to show last 10 temperatures taken**							
10		**Should include rechargeable batteries with charging desk unit**							
11		**Unit should operate >1,000 uses on full battery**							
12		**Unit should have a self test capability**							
13		**Unit shall have visual indicators**							
14		**Final temperature stops flashing**							
15		**low-battery**							
16		**low and high temperatures**							
17		**Should have a suitable case**							
18		**Compliance with standards & legislation:**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
19		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
20		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
مواصفات جهاز					0				
NO	THERMOMETER DIGITAL WALL MOUNT				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		THERMOMETER DIGITAL WALL MOUNT							
1		Digital Thermometer safe for all ages							
2		Shall be for oral, underarm, or rectal use.							
3		Should use disposable probes for measurement							
4		Fast and accurate readings							
5		Readings in Fahrenheit and Celsius							
6		TEMPERATURE:							
7		°F RANGE 90 - 110							
8		°C RANGE 30 - 44							
9		Temperature accuracy: 0.1°C							
10		Automatic shut-off							
11		Large LCD display							
12		Should signal after temperature taken							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
13		Safe to use, with no glass and mercury-free							
14		Should have an auto memory to show a minimum of last 10 temperatures taken							
15		Should include rechargeable batteries with charging desk unit							
16		Should have a holder for wall mounting							
17		Visual / Audible alarm indicators							
18		The offered equipment shall have an approved international certificate (CE, FDA, TUV, etc.)							
مواصفات جهاز					0				
NO	THERMOMETER INFRARED				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		THERMOMETER INFRARED							
1		Non-contact thermometer uses infrared technology to take temperature							
2		Effective distance: 5-8 cm							
3		Range: 35-43˚C							
4		Accuracy: ± 0.2 ˚C							
5		Resolution: 1˚C							
6		Battery operated							
7		Indication for low battery power							
8		Auto recall of last reading							
9		LCD back lit display							
10		Automatic shut off after 10-15 second							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11		Approx. Dimension: 150 H x 40 W x 40 D mm							
12		Approx. Weight: 100 g							
13		The offered equipment shall have an approved international certificate (CE, FDA, TUV, etc.)							

الجمهورية اليمنية

اجهزة قسم الامداد

SUPPLY CHAIN & LOSGTIC Department

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم الامداد							
		SUPPLY CHAIN & LOSGTIC Department							
		مواصفات جهاز			0				
NO		REFRIGERATOR MEDICATION 700L			0				
	Standard	Requirements							
ICU-11									
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
1	**TYPE**	Floor standing							
2	**CONFIGURATION**	Storage of pharmaceuticals under safe, controlled conditions							
3	**CAPACITY IN LITERS**	700 L Approximatlly							
4	**SHELVES**	4 or 5 heavy gauge zinc plated /powder coated							
5	**DOORS**								
6	**DOOR TYPE**	Glass door							
7	**DOOR SEALING SYSTEM**	Yes, para-magnetic							
8	**DOOR LOCK**	Yes							
9	**TEMPERATURE CONTROL**	2 degree Centigrate TO 10 degree Centigrate							
10	**INTERIOR**	Stainless steel							
11	**EXTERIOR**	Powder coated enemal paint							
12	**TEMP-ALARM . And Door Open Alarm**	Yes, High & Low / and Yes for Door alarm							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
13	TEMPERATURE INDICATOR	Yes, Digital display							
14	TEMP. CHART RECORDER					Yes			
15	POWER FAILURE ALARM, AUDIO & VISUAL					Yes			
16	RAPID TEMP. RECOVERY AFTER DOOR OPENINGS					Yes			
17	INSULATION	CFC free							
18	INSIDE LIGHT	Yes							
19	CASTERS	Yes 4, (two lockable)							
20	POWER SUPPLY	220 V, 60 Hz							
21	OTHER SPECIFICATION	FDA OR CE							
مواصفات جهاز					0				
NO	REFRIGERATOR MEDICATION 100L				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		REFRIGERATOR MEDICATION 100L							
1	TYPE	Floor standing							
2	CONFIGURATION	Storage of pharmaceuticals under safe, controlled conditions							
3	CAPACITY IN LITERS	100 L Approximatlly							
4	SHELVES	Specify							
5	DOORS								
6	DOOR TYPE	Glass door							
7	DOOR SEALING SYSTEM	Yes, para-magnetic							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
8	DOOR LOCK	Yes							
9	TEMPERATURE CONTROL	2 degree Centigrate TO 10 degree Centigrate							
10	INTERIOR	Stainless steel							
11	EXTERIOR	Powder coated enemal paint							
12	TEMP-ALARM . And Door Open Alarm	Yes, High & Low / and Yes for Door alarm							
13	TEMPERATURE INDICATOR	Yes, Digital display							
14	TEMP. CHART RECORDER					Yes			
15	POWER FAILURE ALARM, AUDIO & VISUAL					Yes			
16	RAPID TEMP. RECOVERY AFTER DOOR OPENINGS					Yes			
17	INSULATION	CFC free							
18	INSIDE LIGHT	Yes							
19	CASTERS	Yes 4, (two lockable)							
20	POWER SUPPLY	220 V, 60 Hz							
21	OTHER SPECIFICATION	FDA OR CE							
مواصفات جهاز					0				
NO	REFRIGERATOR VACCINE 700L				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		REFRIGERATOR VACCINE 700L							
1	TYPE	Floor standing							
2	CONFIGURATION	Storage of pharmaceuticals under safe, controlled conditions							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3	CAPACITY IN LITERS	700 L Approximatlly							
4	SHELVES	4 or 5 heavy gauge zinc plated /powder coated							
5	DOORS								
6	DOOR TYPE	Solid door							
7	DOOR SEALING SYSTEM	Yes, para-magnetic							
8	DOOR LOCK	Yes							
9	TEMPERATURE CONTROL	2 degree Centigrate TO 8 degree Centigrate							
10	INTERIOR	Stainless steel							
11	EXTERIOR	Powder coated enemal paint							
12	TEMP-ALARM . And Door Open Alarm	Yes, High & Low / and Yes for Door alarm							
13	TEMPERATURE INDICATOR	Yes, Digital display							
14	TEMP. CHART RECORDER	Yes							
15	POWER FAILURE ALARM, AUDIO & VISUAL	Yes							
16	RAPID TEMP. RECOVERY AFTER DOOR OPENINGS	Yes							
17	INSULATION	CFC free							
18	INSIDE LIGHT	Yes							
19	CASTERS	Yes 4, (two lockable)							
20	UPS	Optional (suitable power)							
21	POWER SUPPLY	220 V, 60 Hz							
22	OTHER SPECIFICATION	FDA OR CE							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	مواصفات جهاز				0				
NO	CART DISPENSING				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		CART DISPENSING							
1	PHARMACY DISPENSING CART								
2	MOBILE	YES							
	CASTORS								
3	CASTORS	MEDIUM SIZE , ANTI-STATIC							
	DRAWERS								
4	NUMBER OF DRAWERS								
5	SECTIONS PER DRAWERS	6 - 8 SECTIONS (PARTITIONS)							
6	PARTITIONS	PROVIDE DIFFERNET SIZES FOR EACH DRAWER TO ACCOMODATE DIFFERNET PHARMACY RELATED ITEMS							
7	LARGE BOTTOM DRAWER								
8	TOP SURFACE	FLUSHED TYPE FOR INFECTION CONTROL							
9	BASKET	SIDE BASKET							
10	BOTTOM BUMBER	PREFFERED							
11	MATERIAL MAIN CART	ALUMINUM							
12	DRAWERS MATERIAL	ALUMINUM - SLOTTED FOR PARTIOTIONS							
13	PARTIRIONS	PLASTIC ADJUSTABLE							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز					0				
NO	STAND IV				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		STAND IV							
1	FRAME	Stainless steel 304 preferred							
2	TYPE	Telescopic							
3	HOOKS	4 - 5 Approx							
4	HEIGHT	Adjustable							
5	BASE	Mobile heavy base to withstand the hanged Items weights							
6	Castors	Qty : 5							
7	CAPACITY	5 kg per hook							
مواصفات جهاز					0				
NO	STAND IV MRI COMPATIBLE				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		STAND IV MRI COMPATIBLE							
1	The IV pole shall have the following features:								

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
2		Should be constructed form durable Non-ferrous materials , anti rust material with five swiveling castors and variable height							
3		Compatible with MRI up to 3 Tesla							
4		Shall have Distal end IV bags hangers (4 hooks), which are easily accessible.							
5		Should be lightweight and heavy duty, capable of supporting 3 pumps simultaneously (at least 20Kg) with base support and pump supporting platform.							
6		Shall be height adjustable by means of a telescoping upright rod							
7		The height adjustment shall be secured in place (i.e., with a twist lock, knob handle).							
مواصفات جهاز					0				
NO	SPHYGMOMANOMETER ANEROID MOBILE				0				
	Standard	Requirements							
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		SPHYGMOMANOMETER ANEROID MOBILE							
1	METHOD	ANEROID							
2	INFLATION PRESSURE, mm Hg	300 mm Hg							
3	CUFF SIZES	Adult, Pediatric, Velcro cuff							
4	SYSTOLIC, mm Hg	0-240 approx.							
5	DIASTOLIC, mm Hg	0-130 approx.							
6	OTHER SPECIFICATIONS								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز					0				
NO	SPHYGMOMANOMETER ANEROID WALL				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		SPHYGMOMANOMETER ANEROID WALL							
1	METHOD	ANEROID							
2	INFLATION PRESSURE, mm Hg	300 mm Hg							
3	CUFF SIZES	Adult, Pediatric, Velcro cuff							
4	SYSTOLIC, mm Hg	0-240 approx.							
5	DIASTOLIC, mm Hg	0-130 approx.							
6	OTHER SPECIFICATIONS								
مواصفات جهاز					0				
NO	SPHYGMOMANOMETER ELECTRONIC VITAL SIGN				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		SPHYGMOMANOMETER ELECTRONIC VITAL SIGN							
1	Application	for Adult , Pediatric and neonatal .							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
2	**TYPE**	Electronic, Mobile							
3	**METHOD OF INFLATION**	Oscillometric or any other, specify							
4	**MAXIMUM INFLATION PRESSURE**	300 mmHg							
5	**AUTO INFLATE & DEFLATE**					Yes			
6	**CUFF SIZES for Adult , Pediatric and neonatal .**	2 cuffs for each							
7	**AUTOMATIC ZERO POSITION**					Yes			
	DISPLAY PARAMETERS								
8		LCD							
9	**SYSTOLIC PRESSURE**					Yes			
10	**DIASTOLIC PRESSURE**					Yes			
11	**PULSE RATE**					Yes			
12	**SPO2**	Included							
	ALARMS								
13	**ALARMS, AUDIBLE & VISIBLE**					Yes			
14	**POWER SUPPLY**	**220v, 60 Hz**							
15	**BATTERY**	Yes, Built in re-chargeable batteries with integral charger.							
	ACCESSORIES								
16	**ACCESSORIES**	Basket for cuffs							
17	**OTHER SPECIFICATION**					yes.			
18	**SPO2 Probe**	For Adult, Pediatric and Neonatal (Disposable Box)							
19	**Temp module**	Included							
20	**Oral Temp. Probe**	Included							
21	**Rectal Temp. Probe**	Optioanl							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز					0				
NO	STETHOSCOPE ADULT				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		STETHOSCOPE ADULT							
1	TYPE	Double head							
2	MATERIAL								
3	EAR TUBE	Stainless steel							
4	CHEST PIECE	Stainless steel							
5	BINAURAL								
6	ADJUSTMENT	To angle of ear							
7	CHEST PIECE	Adult and pediateric & Neonatal							
8	ADDITIONAL DIAPHARGM	1 EACH							
9	EAR TIPS, TYPE	COMFORT SEALING							
10	OTHER SPECIFICATION								
مواصفات جهاز					0				
NO	STETHOSCOPE CARDIOSCOPE				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
		STETHOSCOPE CARDIOSCOPE							
1	**CONFIGURATION**	Mobile ECG & Stethoscope							
2	**Digital Cardioscope**	Yes							
3	**Integration**	ECG and Stethoscope in one unit							
4	**ECG Unit detachable from Stethoscope tubing**					Yes			
5	**MRT**					Yes			
6	**Gold Plated electrodes**					Yes			
7	**High resolution display ECG & Heart Rate Data (numerical 30-240bpm +/-1)**					Yes			
8	**Leads**	Leads I- II- III (Direct or 3 leads							
9	**Automatic pacemaker detection**					Yes			
10	**Auto scaling of ECG amplitudes**					Yes			
11	**Sampling Frequency**	256 HZ							
12	**Frequency response**	0.05/0.5 -40 HZ (-3dB)							
13	**Myogram filter ON/OFF**					Yes			
14	**Recording speed**	12.5, 25 , 50 mm/s							
15	**Memory - Data Storage**					Yes			
16	**Power Save Mode**	Yes							
17	**Connectivity**	RS232 / USB PC-Interface							
18	**Software for Data transfer to PC**					Specify			
19	**Battery Duration**	Specify Duration							
20	**Batteries**	Specify types & Qty.							
21	**Anti-Interface Technology**					Yes			
22	**Tubing Length**	Specify							
23	**Weigh**	Preferred light weight : Specify							
24	**Safety standard Type B according IEC 601-1**	Yes							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	مواصفات جهاز				0				
NO	STETHOSCOPE PEDIATRIC				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
		STETHOSCOPE PEDIATRIC							
1	TYPE	Double head							
2	MATERIAL								
3	EAR TUBE	Stainless steel							
4	CHEST PIECE	Stainless steel							
5	BINAURAL								
6	ADJUSTMENT	To angle of ear							
7	CHEST PIECE	pediateric & Neonatal							
8	ADDITIONAL DIAPHARGM	1 EACH							
9	EAR TIPS, TYPE	COMFORT SEALING							
10	OTHER SPECIFICATION								

اجهزة قسم الرقود

Inpatient Ward Department

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
اجهزة قسم الرقود									
	Inpatient Ward Department								
مواصفات اسرة الرقود بالمستشفى					0				
NO	Hospital bed three section Whit mattress on castors & bed Side Locker Heard Metal Steel with overbed table.				0				
	Standard	Requirements							
	MF-1	**Hospital bed three section Whit mattress on castors & bed Side Locker Heard Metal Steel with overbed table.**							
		Bed, designed 3 Sectionsl standard wards							
		Epoxy-Coated main frame constructed from heavy duty section steel tube							
		Removable Chrome-Plated steel bed ends fitted with 10mm laminated plastic panels							
		3 Sections mattress Platform fitted with Epoxy-Coated steel weldmesh							
		Backrest and knee brake adjustable by hydraulic action							
		The bed shall be mounted on 4x125mm (minimum) castors, 2 swivelling with							
		Bumpers at all 4 corners							
		movable bed sids,four five- inch castors two of them are totally lockable,adjustable							
		Supplied with:							
		cotton felt and high-density urethane foam are intertufted to eliminate component shifting and to increase mattress life with Durable vinyl cover, anti-bacterial, anti-static, acid-resistant and waterproof for easy use and care							
		. IV rod, 2 hooks with adjustable height							
		. Side folding-down rails (pair)							
		Guiding Dimentions of bed:200 * 90 * 70 cm							
		Locker, Bedside with Over Bed Table							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Bedside Locker (Cabinet) for Hospital Beds							
		Made from the same Material and same Colors of bed,better From the same Beds Manufacturer							
		4 castors (Orientable)							
		Upper drawer, with nylon ball bearing sliders. Internal Plastic receiver							
		over bed table intgreted or sparately							
		Gas Spring Height Adjustment By Lever.							
		Table Top Made Of Playwood.or equivalen Material for easy cleaning							
		Height Adjustment Range 700-1200mm.							
		Sliding Table End a Cupboard With Door.							
مواصفات عربة المجارحة (استيل ثنائي الدرج)					0				
NO					0				
	Standard	**Requirements**							
	MF-3	**Dressing Trolley, 2 Shelves St.Steel**							
		Stainless Steel Mobile On Swivel Castors 100mm.							
		Include The Followings:.							
		Dressing Drum Holder.							
		Thermometer Holder.							
		Forceps Container Holder.							
		Instrument Tray.							
		Collapsible Table.							
		Drawer.							
		Sponge Bowl.							
		Dressing Jar.							
		Stainless Steel Made.							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات عربة نقل الادوات والملابس					0				
NO					0				
	Standard	**Requirements**							
	MF-4	**Utility Trolley with 2 shelves and guard rail on each shelve**							
		Fully made from Stainless Steel . Mobile on 4 antistatic castors, 2 of which shall have foot brakes							
		with 2 shelves and guard rail on each shelves							

الجمهورية اليمنية

اجهزة قسم التفتيت والغسيل الكلوي

LITHOTRIPSY & Kidney Dialysis Department

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
مواصفات جهاز التفتيت					0					
NO	LITHOTRIPSY ULTRASONIC INVASIVE				0					
	Standard	Requirements			Specified	Yes/No	Catalogue/Brochure PAGE NUMBER	Supplier's Confirmation/ Remarks		
1	APPLICATION	Stone fragmentation in uretheral, kidney, others								
2		**Unit Should be supplied with mobile trolley and storage**								
3	TYPE	Pneumatic / Ultrasonic								
4	AIR SUPPLY									
5	Source	Central air supply & compressors								
6	Supply pressure	3.5-5 bar approx.								
7	ENERGY DELIVERY									
8	Oscillation frequency, Hz	0 - 15 Hz adjustable								
9	COMPATIBLE ENDOS	Any rigid or flexible								
10	PROBES AVAILABLE									
11	PROBE SIZE, Fr.	0.8-9.6 Fr								
12	PROBES LENGTH	60 - 90 cm								
13	ACCESSORIES:									
14		- Suction & aspiration system				Yes				
15		- Footswitch				Yes				
16		- Pressure control unit				Yes				
17		- Guidance adapters for endoscope				Yes				
18		LATEST MODEL TO BE INSTALLED AS PER THE AVAILABILTIY FROM MANUFACTURER				Yes				
19		INSTALLATION & PRE - INSTALLATION, IF REQUIRED, SHOULD BE DONE BY THE COMPANY, Like civil, electrical, plumbing works etc….)			Yes, attach separate scope with details					
20	LINE POWER	Single Phase								
21	VAC	220 V								
22	CURRENT	13 A								
23	FREQUENCY	60 Hz.								
24	PLUG TYPE	3 Pin British								
25	UNIT COMPLETE WITH FULL ACCESSORIES					Yes				

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
مواصفات جهاز الغسيل الكلوي					0					
NO	HD Machine				0					
	Standard	**Requirements**			**Specified**	**Yes/No**	**Catalogue/Brochure PAGE NUMBER**	**Supplier's Confirmation/ Remarks**		
	Manufacturer	Please specify manufacturer and country of origin								
	Model Number	Please specify model number of the offered equipment								
	Safety standard									
	Required	**FDA CLEARANCE**								
	Required	**CE MARK (MDD)**								
	Technical Specifications									
	Dimension and Weight									
	DISPLAY TYPE	Touchscreen								
		15" color CRT touchscreen								
		15" LCD rotatable touchscreen								
	Therapy Modes	On-line HDF								
		Artificial liver 1-HP 2-PA 3-SPAD 4-CPFA 5-FPSA 6-MARS 7-RAD 8-PDF								
		CRRT 1-CVVH 2-CVVHD 3-CVVHDF 4-SCUF								
		Plasma Exchange 1-DFPP 2-PE								
		HD , IUF								
	Proportioning system									
		Balance chamber								
		Ceramic pumps								
	Temperature alarm limits,									
		34-39								
		33℃～ 40℃								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
		33-40 (±0.5)								
		33-40 ±1								
		5~30℃								
	Conductivity range, mS/cm									
		12.8-15.7								
		12.5-16								
		12-18 (±0.1)								
		12.5 mS/cm~16.0mS/cm Accuracy: ±0.1mS/cm								
		(0-25 (±0.1))								
	Flow, mL/min									
		300-800								
		0, 100-1,000, ±5%								
		0 ,1～250								
		0, 300-800, ±5%								
	Accuracy									
		±1%								
		±30 mL/hr or ±1%								
		±0.1mL/min or ±5%								
		±30 mL/hr or ±1%								
	Sodium therapy									
		Na+ profile								
		User-defined profiling								
	BYPASS INDICATOR									
	ALARM ACTIONS									
		Stops blood pump, clamps line								
		Stops blood pump, clamps venous line, bypass								
		DehydrationError ,Liquid Balance Control								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
	Arterial pressure, mm Hg									
		300 to +300								
		(400 to +400)								
		(-500mmHg ～ +700mmHg)								
		700 to +800, ±5%								
		300~280 mmHg ±5 mmHg								
	Venous pressure, mm Hg									
		(-100 to +500)								
		(+20 to +390)								
		700 to +800, ±5%								
		(-500mmHg ～ +700mmHg)								
		(-60~520 mmHg) ± 10 mmHg								
	Blood pump range, mL/min									
		30-600								
		0-600								
		0-700, ±10								
		0mL/min, 30mL/min ～ 600mL/minAccuracy: set value±10%								
		0-700, ±10								
		0, 30ml/min~ 600ml/min								
	Heparin pump range, mL/hr									
		0.5-10 (20, 30 mL syringe)								
		0.1-10, profiling								
		Automatic identification of syringe (10, 0-10, 20 mL syringe								
		0~10 ml/h								
		0-10, 20 mL syringe								
	DISINFECTION Method									

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
		Chemical, hot rinse								
		Heat or chemical required; heat preferred								
		Heat rinse (RO water), heat disinfection (citric acid), decalcification (citric acid), chemical disinfection (sodium hypochlorite)								
	DISPLAYED PARAMETERS									
		Dialysate pressure ,Transmembrane, pressureConductivity ,Flow rate,Elapsed time,Remaining time, Prescribed time ,Last BP reading, treated blood volume, delivered heparin, ultrafiltration volume, Kt/UV, arterial and venous pressure								
		Dialysate pressure ,Transmembrane, pressureConductivity ,Flow rate,Elapsed time,Remaining time, Prescribed time ,Heparin and dialysate flow profiles, bicarbonate profile, dialysate temperature profile								
	OTHER SPECIFICATIONS									

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
		ONLINEplus technology produces electrolyte solutions; AutoFlow automatically adjusts dialysate flow rate; EcoFlow water and energy saving mode; OCM Kt/V measurement; ultrafiltration system; integrated venous access and blood pressure monitors; AutoSub plus maximizes substitution volumes; HighVolumeHDF therapy; dose monitored with online clearance monitoring (OCM); DIASAFEplus filter; ONLINE HDF standard; Therapy Data Management System (TDMS) documents therapy and manages data; optional blood temperature and volume monitors, VenAcc external needle disconnection detector, single-needle double								
		User-defined profiling for UF, sodium, bicarbonate, dialysate flow, and heparin; online technical data and treatment graphs; auto dialyzer rinse program; auto on/off; technical service mode; SN mode standard; rotating touchscreen.								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
		Multi-level authority management; magnetic counter-opening design; compatible with all brands of hemodialysis consumables; multi-functional heparin pump; air detector, venous clamp, blood recognition ultrasonic and optical sensor; A/B fluid degassing function; online non-invasive blood pressure monitor; volume balance feedback control system; dialysate mixing feedback control system; real-time leak detection; online priming and reinfusion; blood volume and temperature monitors; bicart holder; high- and low-sodium sequential								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
		Multi-language interface; automatic adjustment liquid level of venous bubble catcher; highand low-sodium sequential dialysis; self-test for hydraulic, blood circuit, monitoring systems; VP tubing with ultrasound and optical monitoring; dialysate configuration feedback control system; balance feedback control system; tracking and monitoring functions for AP, VP, TMP; IV pole integrates red/yellow/green three-color alarm indicators; treatment sufficiency evaluation; online non-invasive blood pressure monitor; real-time leakage monitor; HD, IUF, sequential dialysis modes; bicart holder; online HDF.								
	SYSTEM **Data storage**									
		Therapy Data Management System (TDMS)								
		CF card, patient card								
		Chemical disinfection Sodium hypochlorite								
	BATTERY BACKUP									
		Optional								
		Yes, could support 40 min								
		Hot water or Citric acid (≥93°C)								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
	Interface									
		Optional RS232 or Ethernet								
		RJ45, RS232, USB								
	POWER REQUIREMENTS, VAC, Hz									
		100-240, 50/60								
		230 V to 240 V~ 50 Hz – 60 Hz								
		~220-230V, 50Hz/60Hz 500VA								
مواصفات جهاز الغسيل الكلوي بالفلترة الدموية (وريدي وريدي) عند ضغط يصل الى الصفر					0					
NO	**CRRT (CONTINUOUS RENAL REPLACEMENTTHERAPHY) MACHINE**				0					
	Standard	**Requirements**								
1	**Manufacturer**	Please specify manufacturer and country of origin								
2	**Model Number**	Please specify model number of the offered equipment								
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA								
4	**Applications:**	The machine is dedicated to the fully automated practice of a complete range of								
		continuous renal replacement and fluid management therapies.								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
5	**General Feature:**	The machine is a fully automatic integrated unit and able to perform the following therapies:-								
		a. SCUF – slow Continuous Ultra Filtration								
		b. CVVH – Continuous Veno-Venous Hemofiltration.								
		c. CVVHD – Continuous Veno-Venous Hemodialysis								
		d. CVVHDF – Continuous Veno-Venous Hemodiafiltration								
		e. TPE – Therapautic Plasma Exchange								
		f. HP – Hemoperfusion								
		g. Sepsis treatment using Oxiris membranes								
6	**The machine is user friendly and has automated functions which include:**									
		A large 12 inches color TFT – LCD touch screen and smart software for easy operator guidance.								
		Step-by-step instructions with graphical instructions on screen for easy set up.								
		Self-testing alarms and functions after priming and every 2 hours to ensure the patient’s safety.								
		Rapid and automatic priming procedure in 5 minutes.								
		Continuous and precise fluid balance management using 4 dedicated								
		(independent) weighing devices monitoring pre-blood pump, replacement pump, dialysate pump and effluent pump.								
		Recording of patients’ treatment history up to 90 hours. Storage of 500 events.								
		Total filtrate volume, replacement solution volume, dialysate volume, pre-blood								
		solution volume and elapsed time are shown and updated on treatment history								
		screen in an orderly fashion for ease of recording and patient safety.								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
		Continuous information of all parameters displayed on one screen including graphical display								
		of pressure monitoring such as filter differential pressure and TMP (Trans-membrane pressure)								
		Each fluid weight scale should able to accommodate up to 11L of fluid at one time in order to								
		reduce workload of nurses. (A total of max 44L with 4 independent fluid weighing scales).								
7	**System comes with the following:**									
		Option for easy changeover from one modality to another without interrupting the treatment.								
		Option for Regional citrate Anticoagulation for all therapies.								
		Option for simultaneous delivery of Pre and Post filter replacement solution								
		Option for recirculation mode								
		Option to enable Oxiris filter for Sepsis treatment.								
		Option to enable low weight HF20 set for CRRT treatment of babies >8kg weight.								
		Option to change syringe size.								
		Option of upgrade software.								
		Pre-connected filter together with the tubing set (the choice of membrane of the								
		filter used with this system should be made from Acrylonitrile 69 (AN69) which								
		has been proven to remove inflammatory molecules e.g. IL-6 effectively)								
		Should operate with a low extracorporeal blood volume which is equal or less								
		than 152ml (93ml for Paediatric) in order to improve patient tolerance without								
		affecting patients' haemodynamic stability and limited blood loss.								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
		Build in dosage calculator: Able to provide additional tool to support operator on								
		the dosage prescription and display dialysis dose delivered at end of therapy								
		his helps in easy management with built-in calculator aid in providing up-todate details on treatment efficiency.								
8	**Technical Requirements:**									
		A.The system is equipped with five (5) separate pumps for the following functions:								
		Blood Pump								
		Dialysate Pump								
		Effluent Pump								
		Replacement Pump								
		Pre-blood Infusion Pump								
		o Allows total circuit hemodilution with infusion point very close to the patient access.								
		o PBP hemdilution can be set to a fixed ratio between the speed of blood pump & speed of PBP additional pump & monitoring required.								
		o Allows regional anticoagulation protocol e.g citrate which has been proven to prolong the filter’s life span.								
		B. Equipped with four (4) independent weighing scales which allows the user to use different composition of fluids for each scale in order to ensure precision and accuracy in delivering the fluids:								
		Pre-blood pump scale.								
		Replacement scale								
		Dialysate scale								
		Effluent Scale								
		C. Equipped with five (5) independent pressure sensors:								
		Pre-filter pressure sensor								
		Effluent pressure sensor								
		Blood access pressure sensor								
		Blood return pressure sensor								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
		Fifth pressure sensor port for future therapy e.g. couple filtration								
		D. Equipped with 2 pinch valves for the pre and post dilution capability using the same treatment set.								
		E. For CVVHDF modalities, machine should have flexibility to use *lactate based dialysate solution and bicarbonate solution simultaneously.								
		F. Alarms (Audio and visual) and safety system includes:								
		Bag change information								
		Access Pressure alarms								
		Filter clotting alarms								
		Return pressure alarms								
		Air detector alarm								
		Blood lead detector alarm								
9	**Bar code reader**									
		Recognition of set type and traceability number.								
		Automatic setting of the set parameters range.								
10	**Deaeration chamber**									
		Unique air management system								
		Low Volume (7ml) air bubble trap with semi automatic levelling.								
		No air-blood interface.								
11	**Discharger ring:**									
		To minimize the electrostatic interference on cardiac monitor.								
		G. Equipped with the capabilities for connectivity and information technology.								
		Computer interface (RS232) which allows via modern connection for remote trouble shooting								
		Ethernet connection with ICU network								
		PCMCIA slot with data card to store treatment data that can be downloaded into PC. To be developed.								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
		H. Flow rate (With clinical paper proven that the delivered and prescribed setting is always lower than 2%)								
		i. Blood pump flow rate ranges between 10ml to 450 ml/min with accuracy or ±10% of the set rate.								
		ii. Replacement solution flow rate ranges between 0 ml to 8000ml/hr								
		iii. Dialysate flow rate ranges 0 ml to 8000ml/hr								
		iv. Pre-blood infusion pump flow rate between 0 ml to 8000 ml/hr								
		v. Filtrate or effluent rate ranges between 0 ml to 10,000 ml/hr								
12	**Pressure monitoring range:**									
		i. Access line (-) 250 mm Hg to (+) 300 mm Hg								
		ii. Return line : (-) 50mm Hg (+) 350 mm Hg								
		iii. Pre filter line: (-) 50 mm Hg to (+) 450 mm Hg								
		iv. Effluent line (-) 350 mm Hg to (+) 400 mm Hg.								
		I.The system should include (integrated) infusion pump for continuous or bolus anticoagulation								
13	**Continuous delivery rate range:**									
		0 or 0.1 to 5.0 ml/hr for 10 ml syringe.								
		0 or 0.5 to 5.0 ml/hr for 20ml syringe								
		0 or 0.5 to 10.0 ml/hr for 30 ml syringe								
		0 or 2.0 to 20.0 ml/hre for 50 ml syringe								
14	**Bolus Delivery volume range:**									
		0 or 0.5 ml to 5.0 ml for 10ml and 20ml syringes								
		0 or 1.0 to 5.0 ml for 30 ml syringe								
		0 or 2.0 to 9.9 ml for 50 ml syringe								
		J. Syringe type for heparin pump is calibrated with 10ml to 50ml								
		The disposables and the consumables necessary to operate the machine should								
		be provided 10 in each at the time of installation of the equipment.								
15	**Appropriate UPS backu**	Required								
16	**Certification from the manufacturer:**									

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
16.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
16.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
16.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
16.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
16.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
16.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
16.7		Final operating test by manufacturer							
16.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
16.9		Technical support from the manufacturer incase the agent or distributor doesn’t response when needed.							
17	**Maintenance:**								
17.1									
17.2		Service manual & operation manual {Hardcopy & Softcopy}							
17.3		Spare parts list with code NO							
18	**Training :**	User /Nurses training, by Specialist from the Supplier.							
19	**Power supply**	100 to 240 V ~ ±10%, 50 Hz							
20	**Other specification**	Please specify.							

الجمهورية اليمنية

اجهزة وحدة مناظير الجهاز الهضمي

Endoscopy Unit with ERCP

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات وحدة مناظير الجهاز الهضمي					0				
NO	Endoscopy Unit with ERCP				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
		The system must be FDA approved and CE marked							
4	**MARKET CLEARANCE FOR EITHER:**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology high quality							
5	**VIDEO PROCESSOR-1 Nos**								
		Should be compatible with Anlog, HD-SDI AND DVI Output for HDTV monitor should be available							
		Equipped with High resolution HDTV Imaging capacity							
		Compact and ergonomically designed							
		Should be compatible HD plus video scopes with optical chrome endoscopy imaging such as NBI/S/I Scan/ FICE or better Technology							
		Should be having Inbuilt/ Separate light source.							
		Recording of both still/ moving images equipped with one touch connection of scopes.							
		Portable memory & USB slot for still image.							
		Automatic IRIS Control & automatic white balance							
		Should have in built light source or separate light source with NBI/S/I Scan/ FICE or better technology.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Image capability/HD Plus video high Intensity Xenon light Source (100-300Watt) with 500 hours life preferably with emergency halogen light/LED for backup.							
		Two spare xenon lamp to be provided as standard.							
		Backlit Front panel indicator.							
		Equipped with automatic light adjustment forced air-cooling, regulated air feeding pump and fan with low noise.							
		Compatibility with all endoscopes (Gastroscope, Ultrathin endoscope, colonoscope, duodenoscope and both endosonoscope)							
		Video Endoscopy workstation							
		Trolley with space for accommodation of a LED/LCD HD monitor							
		Two water bottles compatible with the processor							
		One high pressure suction machine (>1KPA) should be supplied							
6	**HIGH DEFINITION MONITOR**								
		High definition LED/LCD 32”or more medical grade monitor – 1 no. with high resolution 1920X1080p Lower power consumption.							
		PAoswpeecrt croantisou 1m6p: t9io/1n6 :10 with resolution of 1080p.							
		Color system should be PAL/NTSC							
		Should have Picture-in -Picture and Picture -out-Picture for viewing side by side split screen images.							
7	**Fiber - Gastrosscope**								
		Field of view : 105 degree							
		Direction of view : 0 degree							
		Forward viewing Depth of view field: 3 – 100 mm Distal end diameter: 9.5mm Flexible portion diameter: 9.8 mm							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Bending capability: + UP: 2100 + DOWN: 900 + LEFT: 1000 + RIGHT: 1000							
		Forceps channel diameter: 2.8 mm Working length: 1,030mm Total length: 1,350mm							
		Accessories: All so far as required for standard use							
8	**Fiber – Colonoscope**								
		Field of view : 120 degree							
		Direction of view : 0 degree							
		Forward viewing Depth of view field: 3 – 100 mm Distal end diameter: 13 mm Flexible portion diameter: 13 mm							
		Bending capability: + UP: 1800 + DOWN: 1800 + LEFT: 1600 + RIGHT: 1600							
		Forceps channel diameter: 3.2 mm Working length: approx. 1,660 mm Total length: approx. 1,980 mm							
		Accessories: All so far as required for standard use							
		Duodenoscope							
		Suitable have chrome endoscopy such as NBI/S/ISCAN/ FICE or Better Technology.							
		Field of view : 90° to 110° deg or more							
		Direction of View: 5° /10° , backward oblique viewing							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Depth of Field: 4/5 to 60mm or better							
		Distal End outer diameter: 11-14 mm or less							
		Insertion Tube Outer Diameter : 11-14 mm or less							
		Bending direction: four directions up, down, left, and right							
		Bending angle: upper: 120° to 130°, lower 90°, right 90° to 110°, left 90° to 110°							
		Working Length : 1.2-1.4 mtr							
		Channel Inner Diameter: 4.2 mm or more							
		Minimum Visible Distance : 10 mm or closer from Distal end							
		ERCP Accessories-							
		1) Single use standard ERCP cannula-10 nos							
		2) Single use ERCP guide-wire 0.025" with high stiffness, 450cm working length and hydrophilic tip - 5 nos with straight tip & 5 nos with angled tip							
		3) Single use triple lumen sphincterotome.-10 nos							
		4) single use triple lumen needle knives-10 nos							
		5) single use stone extraction balloons-10 nos							
		6) single use stone extraction basket-10 nos							
		7) Reusable hard type dormia basket-10 nos							
		8) reusable Emergency Lithotripter-5 nos							
		9) Biliary Cytology Brush : Double Lumen with radio opaque marker : 5							
		10) Biliary Balloon Dilators with Inflation device : Double Lumen with radio opaque marker (6mm, 8mm & 10mm) - 1 set							
		11) Reusable stent removal forceps-10 nos							
		12) Wire with Hydraulic tip at both end along with radio opaque marker over the tip (0.035", 450 cm) - 10 nos							
		13) Compatible cleaning brushes for the elevators and suction channels - 1 nos.							
9	**Essential requirement:**								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		Application software and interface connection Included.							
		• Service manual and operation manual {Hardcopy & Softcopy}							
10	**Warranty**	2 years, including all spares and caliberation.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
11	**UPS**	Online UPS shall be Provided							
12	**Electrical Requirement :**	100-230 VAC 50/60 Hz single phase							
13	**Other specification**	Please specify other specification							
مواصفات جهاز المناظير ديجيتال متكامل					0				
NO	**ENDOSCOPY DIGITAL SYSTEM COMPLETE**				0				
	Standard	**Requirements**							
Oty-8	**ENDOSCOPY DIGITAL SYSTEM COMPLETE**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3	**Safety standard**	FDA approval or CE marking Product circulation certificate in Europe and the United States of America							
4	**Design & quality**	Mobail , heavy duty and high quality new model, able for high load & hard work.							
5	**Composition:**	Digital camera controller							
5.1		Light source							
5.2		TV Monitor							
5.3		Video recorder							
5.4		Video printer							
5.5		Video gastroscope							
5.6		Video duodenoscope							
5.7		Video colonoscope							
5.8		Work station trolley							
6	**Digital camera controller:**								
6.1		Compact design							
6.2		Digital signal processing							
6.3		Automatic gain control							
6.4		Contrast control							
6.5		Freeze option							
6.6		Image size control							
6.7		Patient database							
6.8		Doctor database							
6.9		Control keyboard							
6.1		Enhancement control							
6.11		Iris control							
6.12		Outputs RGB * 2, Y/C * 1							
6.13		BNC * 1 min.							
6.14		RS 232 for computer connection							
6.15		Color tuning for R & B							
6.16		220 V / 50 Hz							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7	**Light source:**								
7.1		Separate							
7.2		Xenon lamp 300 W min.							
7.3		Intensity control 0 up to 100%							
7.4		Backup halogen lamp							
7.5		One spare xenon lamp							
7.6		Illumination 5600 K.							
7.7		Lamp light meter							
7.8		220 V / 50 Hz							
8	**Monitor:**								
8.1		17" min. CRT or LCD							
8.2		2 Inputs min. / RGB, 1 input Y/C and BNC							
8.3		Color system PAL / SECAM / NTSC auto							
8.4		Ultra high resolution							
8.5		Brightness and contrast control							
8.6		Video output connections Y/C							
8.7		220 V / 50 Hz							
9	**Video recorder:**								
9.1		compatible with system							
9.2		Color system PAL / SECAM / NTSC auto							
9.3		Video input RGB, Y/C & BNC							
9.4		Video output connection							
9.5		Remote control							
9.6		220 V / 50 Hz							
9.7		Colored printer							
9.8		Compatible with system							
9.9		High-resolution 400 dpi.							
9.1		15 Million colors / dot min.							
9.2		High-speed printing (20 sec. Max.)							
9.3		Menu driven front panel + remote control							
9.4		RS-232 Interface							
9.5		Front panel LED display							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9.6		Multi image on single paper up to 4 images min.							
10	**Video gastroscope :**								
10.1	Camera	Leading edge high resolution CCD							
10.2	Field of view (degree)	120° min.							
10.3	Direction of view	Forward 0°							
10.4	Focusing depth (mm)	3mm up to 100 mm							
10.5	Tip deflection (degree)	Up - 210° approx.							
10.5-1		Down - 100° approx.							
10.5-2		Right - 100° approx.							
10.5-3		Left - 100° approx.							
10.6	Distal diameter (mm)	9- 11 mm.							
10.7	Insertion tube diameter	9- 11 mm.							
10.8	Working length	100 cm							
10.9	Total length	130 cm.							
10.1	Working channel diameter	2.8-3.8 mm min.							
10.11	Distal cap / cover	Removable							
10.12	Air-water-suction valves	Autoclavable							
10.13	Scope head	Contains 3-multifunctions control switches min.							
10.14	Brushes	Included for all channels							
11	**Video duodenoscope :**								
11.1	Camera	Leading-edge high resolution CCD							
11.2	Field of view	100° min.							
11.3	Direction of view	5° min. backward							
11.4	Focusing depth	5 up to 50 mm							
11.5	Tip deflection	Up - 120° approx.							
11.5-1		Down - 90° approx.							
11.5-2		Right - 110° approx.							
11.5-3		Left - 90° approx.							
11.6	Working channel diameter	4.2 approx.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11.7	Distal diameter	13,5 mm approx.							
11.8	Insertion tube diameter	12 mm approx.							
11.9	Working length	125 cm approx.							
11.1	Total length	155 cm approx.							
11.11	Distal cap / cover	Removable							
11.12	Air-water-suction valves	Autoclavable							
11.13	Brushes	Included for all channels							
11.14	Scope head	Contains 3 multifunction control switches min.							
12	**Video colonoscope :**								
12.1	Camera	Leading edge high resolution CCD							
12.2	Field of view	120° min.							
12.3	Direction of view	0° forward							
12.4	Focusing depth	5 – 100 mm							
12.5	Tip deflection	Up - 180° approx.							
12.5-1		Down - 180° approx.							
12.5-2		Right - 160° approx.							
12.5-3		Left - 160° approx.							
12.6	Distal diameter	12.2-13.2 mm							
12.7	Insertion tube diameter	12-13 mm							
12.8	Working length	165 cm approx.							
12.9	Total length	200 cm approx.							
12.1	Working channel diameter	3,7 mm min.							
12.11	Distal cap / cover	Removable							
12.12	Air-water-suction valves	Autoclavable							
12.13	Scope head	Contains 3 multifunction control switches min.							
12.14	Brushes	Included for all channels							
13	**Working station trolley :**								
13.1		original Mobile on castors							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
13.2		5 Shelves min.							
13.3		Power box for 10-mk min.							
13.4		Mild steel construction							
14	Leakage tester	Compatible with all models							
15	**Certification from the manufacturer:**								
15.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
15.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
15.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
15.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
15.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
15.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
15.7		Final operating test by manufacturer							
15.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
15.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
16	**Maintenance:**								
16.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
16.2		Service manual operation manual {Hardcopy & Softcopy}							
16.3		application software and interface connection Included.							
16.4		spare parts list with code NO							
16.5		Including maintenance and calibration tools.							
17	**Training**								

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
18	**Other specification**	Please specify other specification							
	Item	**Description**	**Qty.**						
	1 (a)	**Video Processor.**	1						
		Compact size processor with an integrated light source							
		Digital High Resolution Images							
		Power supply : 230 V /50 Hz/1.4 A							
		Colour adjustment: Black, red, green, blue, R-hue, chroma; 9 settings							
		BLD : Hi, Mid, Lo, off							
		Lamp rated value: Main lamp: Xenon lamp, 11.7B/150W;							
		Emergency lamp, 12 V/75 W Halogen lamp							
		Digital output : DVI (digital visual interface)							
		Image Zoom : Electronic Zoom x1-x2 (in steps of 0.05)							
	b)	Medical Monitor 19",	1						
	c)	Water Tank and Air Leakage Tester	1						
	d)	Suction Aspirator	1						
	e)	Trolley with back door	1						
	2	**Gastroscope for Upper G.I. Tract**	1						
		is a slim endoscope for the upper G.I. Tract having a forceps channel of not							
		2.8 mm diameter and a distal end of not more than 8.5 mm.							
		Observation capability has been increased with aide field of view of 140deg							
		Super CCD technology.							
		Technical Specifications:							
		Viewing direction : 0 deg. (Forward)							
		Field of view : 140 deg.							
		Observation range : 3 - 100 mm							
		Distal end diameter: 8.5 mm							
		Flexible portion diameter : 8.5 mm							
		Bending capability : UP 210 deg./DOWN 90 deg.							
		RIGHT 100 deg/LEFT 100 deg							
		Working length at last : 1,100 mm							
		Total length at more : 1,400 mm							
		Forceps channel diameter not more than : 2.8 mm							
	3	**Colonoscope for Lower G.I. Tract**	1						
		This is slim type endoscope for lower G.I. tract with the distal end of not more 11.0mm							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		While this slimmed-down scope has improved insertability, it retains a 3.2 mm							
		forceps channel to accommodate various treatment method.							
		Viewing direction : 0 deg. (Forward)							
		Field of view not more than : 140 deg.							
		Observation range : 3-100 mm							
		Distal end diameter not more than 11.0 mm							
		Flexible portion diameter not more than : 11.0 mm							
		Bending capability : UP 180 deg./DOWN 180 deg.							
		RIGHT 160 deg/LEFT 160 deg							
		Working length not more than : 1,690 mm							
		Total length : 1,990 mm							
		Forceps channel diameter not more than : 3.2 mm							
4	**Duodenoscope.**		1						
		Duodenoscope is capable of performing every endoscopic procedure in the comon bile duct and pancreatic duct with its more from 4mm forceps channel.							
		The diameter of the flexible section is a slim more 11.4mm and the smaller							
		bending redius and shortened , bending section allows for easier access for completetherapeutic functin.							
		endoscopes are incorporates a more 400,00 pixel CCD							
		chip for unparalleled visual performance.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Viewing Direction Latero (more 7 deg rear/rward)							
		Field of view 100deg							
		Distal end diamter no t more than 13.1 mm							
		Flexible portion diameter not more than : 11.8 mm							
		Forceps channel diameter not more than 4.2 mm							
		working length at last 1,250mm							
	4	Color Printer	1						
	5	Disinfection Machine Automatic Single scope	1						

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اجهزة قسم القلب والقسطرة القلبية

Cardiac Department

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
اجهزة قسم القلب والقسطرة القلبية									
	Cardiac Department								
مواصفات وحدة القسطرة القلبية					0				
NO	CATHETERIZATION UNIT, SINGLE PLANE, FLOOR OR CEILING MOUNTED (New)				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
4		The system must be FDA approved and CE marked							
5	**MARKET CLEARANCE FOR EITHER:**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology high quality							
6	**SPECIFIED USE**	This system shall be a catheterization unit to provide high imaging performance for full range of cardiac angiography procedures. The System can be future upgraded to interventional radiology							
		Refurbished Units will not be accepted.							
		This system shall be a catheterization unit to provide high imaging performance, It shall meet or exceed the following specifications:							
7	**C-ARM:**								
		Configuration: Floor or Ceiling mounted multi-directional and counterbalanced single plane Posterior-Anterior C-arm type with fully motorized movements for cardiovascular interventional applications.							
		Depth: approximately 90 cm minimum.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		LAO projection: 120 degrees minimum.							
		RAO projection: 120 degrees minimum.							
		Cranial – to –caudal angulations range: ±50 degrees minimum. ±45 degrees.							
		Positioning speed (Rotation rate, deg/sec): ≤ 25 deg/sec approximately.							
		SID: 90-105 cm approximately or better.							
		The movements shall be motorized with parking capability							
		Parking and longitudinal movement should be motorized and manual to enable fast positioning of the C arm. The system should feature easy handling of the parking and positioning by a single operator							
		There should be electronic stop switches to prevent collisions							
		Total patient coverage without repositioning: 180 cm, higher is better.							
		The distance from the x-ray tube focus to the c-arm image receptor: 90 – 120 cm approximately							
		It shall have memory for multiple user-defined positions.							
		Anti-collision system between C-arms and patient table shall be provided.							
		Angiography rotational scan							
		Automatic stand positioning depending on the selected reference image and vice versa							
8	**Patient Table:**								
		Dedicated floor mounted angiography table with radiolucent free-floating (4-way motorized or more) tabletop of carbon fiber or equivalent material.							
		Patient weight including CPR: at least 250 kg.							
		Table length: 250 cm approximately.							
		Table vertical movement range : 70 – 100 cm approximately.							
		Table longitudinal travel: 110 cm or better.							
		Table width: 50 cm approximately; the tabletop to be tapered towards the chest area for more flexible C-Arms positioning towards the heart region.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Table lateral travel: +/- 14 cm approximately.							
		Separate operating modules for geometry and imaging functions should be attached to either side of the table to facilitate easier operations.							
		The following accessories should be quoted along with the table:							
		* Accessory rails							
		* Tabletop accessory clamps							
		* Catheterization arm rest							
		* Drip stand							
		* Radial arm boards							
		* Table mounted radiation safety skirt							
		* Ceiling mounted radiation scatter shield							
		* Ceiling examination lamp							
9	**X-Ray Generator**								
		Microprocessor controlled high frequency type generator.							
		Nominal Power Rating: 100 KW.							
		Voltage setting range: 40 – 125 kV approximately. (Please Specify For Fluoroscopic KV)							
		Current setting range: 10-1000 mA approximately. (Please Specify For Fluoroscopic current)							
		The system should be capable of pulsed fluoroscopy and the cine range should be 10 fbs minimum.							
10	**X-Ray Tube:**	X-ray tube with built in grid switch, Continuous loadability & a noise-free .							
		Anode heat storage capacity: ≥ 3 MHU minimum . (Tubes with higher storage capacity will be preferred).							
		The system should have anode heat dissipation capacity of at least 1,500,000 HU/min							
		Dual focal spots are required . (Triple focal spots are preferred).							
		Cooling system oil / water (oil is preferred)							
11	**Collimator:**								
		The collimator shall facilitate the proper collimation for all proposed applications.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Adequate filtering for lowest possible skin dose in fluoro and acquisition modes.							
		Automatic setting of additional Cu equivalent filters (0.1 to 0.9 mm) according to the absorption of the patient, in fluoro and acquisition modes.							
12	**Image Detection:**								
		Type : aSi with CsI scintillator							
		The imaging area of the digital flat panel detectors Dimensions, cm : 20 x 20 (Larger Dimensions will be preferred).							
		Image matrix: 1k x 1k.							
		The spatial resolution shall be at least 2.5 LP/mm							
		Pixel depth shall be ≥14 bit							
		Pixel size of 200 µm or less.							
13	**Acquisition Speeds**	Frame rates : 30 - 60 fps . (Higher speed will be preferred).							
14	**Display Monitors**								
		Six monitoring screen over the EP lab table 18” minimum, TFT, flicker-free, high contrast display monitors for image display in the examination room, 2 monitoring screen for X-rays, one for mapping system, 2 monitoring screen for surface electrocardiogram and intracardiac electrograms and one screen for anesthesia monitoring. Ceiling mounted shall be included.							
		A high-end workstation control console with dual, 18”, flat, TFT, high-resolution display monitors configuration shall be included.							
19	**Operation**	All system movements of the C-arm, table, image display, image review, image processing, and analysis must be operable from table-side or by personnel in the control room, if needed.							
10	**Exposure Control**								
		Virtual collimation using LIH							
		Auto adjustable copper filtration							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Dose monitoring							
11	**Image Storage**								
		Image storage capacity of 50,000 images of 1024x1024 image matrix minimum.							
		The system shall include a DVD-CD / RW drive for patient image storage.							
12	**Digital Image System**	Required							
13	**Software Package**	**but not limited to :**							
		Digital imaging system with a complete package of advanced real time image processing, real time DSA studies, roadmap, image analysis with quantitative vascular, ventricular and full coronary analysis capabilities, pediatric cardiology packages capabilities, ECG recording and ECG-triggered fluoroscopy shall also be included:							
		* Digital subtraction angiography system for subtraction and acquisition and display at all selected frame rates, landmarking, re-masking and average masking							
		* Live Stent enhanced visualization .							
		* Integrated Dose monitoring system with dose reduction is required.							
		* Procedural navigation aids .							
		* Cone Beam CT or Equivalent .							
14	**Electrophysiology lab:**	Required							
	A.Hardware requirements:								
		All requirements as the cath lab unit: C-arm, table and all X-ray equipment							
		6 monitoring screens over the EP lab table: 2 for X-rays, one for mapping system, 2 for surface electrocardiogram and intracardiac electrograms and one screen for anesthesia monitoring.							
		Radiofrequency energy ablation generator, usually attached to the EP table							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Electrograms connection cable containing 60 to 80 channels with their full infrastructural connections between the EP table and the control station.							
		X-ray – isolated control station which contains: a.EP computer with its accessories. b.2 monitor screens for surface electrocardiograms and intracardiac electrograms c.one X-ray screen. d.Cardiac stimulator. e.Mapping system with its computer (+ accessories) and screen monitor.							
		Various types catheters of electrophysiology study (diagnostic and ablator catheters).							
	B.Software:								
		Electrophysiology computer software (e.g. general electric GE EP study program).							
		Mapping system software (e.g. Carto and Navx systems)							
15	**3D Rotational Angiography**	With Software Required **(Must be quoted separately)**							
16	**Standard Software Package**	Required (Please Mention Standard Software Package or Free Additional Software Package, other than mentioned above)							
		Software Copy with Driver & interface cable							
17	**Software Options**	All available software options and system accessories for cardiac **(Must be quoted separately). (Required)**							
18	**Interface & Network**								
		It shall be fully DICOM compliant with all standard DICOM specifications with interface to the hospital RIS/PACS network/system.							
		Dedicated interface for hardware and software remote diagnosis is required.							
19	**Hemodynamic**	**(Must be quoted separately)**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		A Hemodynamic Recording System that shall perform all hemodynamic studies and measurements during cardiac catheterization procedures. It shall meet or exceed the following features:							
		* 12 lead ECG.							
		* 4 channel IBP.							
		* SpO2.							
		* NIBP.							
		* Respiration.							
		* Quick operation with dedicated control panel and on-screen menus that allow intuitive selection of display modes.							
		* High visibility, crisp waveform display on large (15” minimum) twin LCD color monitors.							
		* High performance PC system to allow networking, report generation and data storage.							
		*** It shall be delivered complete with:**							
		# Integrated cart / desk.							
		# 12 channel thermal array printer and laser printer.							
		* Hemodynamic Information Software.							
		* Configurable programs.							
		* All needed accessories for patient monitoring for Invasive pressure, SpO2, ECG, NIBP and temperature are to be supplied with the system.							
20	**Console Work station and Digital Archiving**								
		Facility for acquired images to be transferred to the workstation seamlessly without interrupting the procedure; there should be 2 way digital image communication between the workstation and the procedure room.							
		Should be able to work with the workstation for review of the previously transferred scenes of same patients or other patients while procedure is going on without interruption.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Work station should be able to archive at least 10,000 patients' data with easy irretrievability search by name, date of procedure or cath number							
		There should be facility to edit and delete selected scenes archived in the work station							
		There should be additional review workstation with CD/DVD recorder, laser printer and latest generation computer with 24 inch LCD monitor with storage capacity of at least 1 terabit memory and 8 GB RAM and with licensed version operating system.							
		USB Interface to copy images to memory disk / external hard disc.							
		There should be facility to connect the workstation to hospital PACS system of any proprietary item for remote viewing and manipulation							
21	**POWER REQUIREMENTS**	Primary power nominal 380-480 VAC, 3-phase, 50/60 Hz							
22	**OTHER SPECIFICATIONS**	**(Please Mention)**							
23	**High Pressure Injector**	**(Must be quoted separately)**							
		A state of the art High Pressure Injector .							
		Automated motorized high speed – single head- angiographic pressure injection system (make and model of Injector to be clearly indicated in offer along with detailed technical brochure)							
		100 disposable syringes							
24	**UPS**	**(Must be quoted separately)**							
		a. The system should be provided with UPS online system for the complete system for the total load of the machine, accessories, printer, console, air conditions and all other electrical for full function with at least 10 minutes back up (full load). Must be accepted and recommended from the manufacturer.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
25	**FDA Approved & CE Marked (MDD)**	**Required**							
		The system must be FDA approved and CE marked							
26	**Preparation For Installation**								
		Complete pre-installation site preparation works inclusive of chillers, beam supports for ceiling stand and C-Arm, floor ducting and finishing shall be delivered and installed by the supplier and coordinated with the civil and electromechanical contractors as required. Bidders may inspect installation site prior to bidding their offers. Radiation warning lights (interlocked with system's power-on) and warning signs shall be installed by the supplier in accordance with international and local regulations. Equipment and computer cabinets and control console desks (with two operator chairs) shall all be included with the system.							
27	**Turnkey**	**(Must be quoted separately)**							
		Turnkey all and should include the Planning , shielding, Civil, Electrical, Air-conditioning, interior and furniture work and reporting area. And any requirements for proper working even if they are missed in this documents .							
28	**Training**								
		Two Radiologists to be provided training at site for two weeks or at any center if needed.							
		Remote service facility should be provided for faster resolution of service issues.							
		Standard proposal of training for two in-house biomedical engineers /technicians as the principal Companies standards offers for these jobs. English or Arabic speaking.							
29	**Guarantee**	The vendor should guarantee the service and spare support for 10 Years of the system and all accessories after 2 years of warranty							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
30	**Warranty & CMC**								
		a. The system should have standard warranty for two years for all system, X-Ray tube, all accessories and turnkey work. Starting From date of Installation/ Commissioning/ training and acceptance certificate from the MOHP committee.							
		b. the max downtime/year should not exceed 10 working days, otherwise the supplier should pay for the downtime days 1% of the total contract amount of the stopped machine for each 10 days, and replace the machine with a new machine if the downtime/year exceed 30 working days in addition to the mentioned penalty.							
		c. The bidder should clarify the maintenance capabilities/benefits and copy of service team in the country certificates and authorizations from the Manufacturer.							
		d. Comprehensive Maintenance Contract (CMC) for the whole equipment with X-Ray tube and all accessories for one year should be quoted after warranty. **(Must be quoted separately)**							
31	**The following documents should be attached with the offer:**	**Required**							
		The offer should be accompanied by Original data sheet of the product.							
		Spare Parts with Code NO.							
		Incomplete data sheets and offers which are speculative will be rejected.							
		Turnkey offer – includes total Civil works with false roofing, Electrical work and necessary air conditioning.							
		Operation manual & service manual with circuit diagram should be provided during the supply of the equipment.							
		Product quality certificates: Valid US FDA & European CE certificate of the offered model must be submitted with the offer.							
		Mention the number (with addresses and phone numbers) of installations of quoted units in Yemen							
32	**Delivery Time**	**(Please Specify)**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز الكي بالترددات العالية لمنع الارتجاف الاذيني للقلب					0				
NO	Radiofrequency Ablation machine for Atrial Fibrillation				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model number	Please specify model number of the offered equipment							
	FDA Approved & CE Marked (MDD)	**Required**							
		The system must be FDA approved and CE marked							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		Adequate safety to operator, patients, attendants and other medical apparatus connected.							
		Device should have both the output frequencies- Monopolar and Bipolar.							
		Device should have output frequency: 4 MHz for Monopolar and 1.7 MHz for Bipolar.							
		Device should have a minimum output power of 90 W.							
		Device should have Cut (90W or above), blend (65 W or above), Coag(45 W or above), fulgurate(35 W or above) and bipolar (90 W or above) output waveforms.							
		Device should come with a dual frequency footswitch and cable.							
		Device should have an option of both reusable and disposables consumables.							
		Device should have Digital Control Panel for easy operation and clear view of settings.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Device should have Solid State Circuitry for dependable and consistent energy emission.							
		Device should have auto-cut facility.							
		Device should have safety indicators to provide visual and auditory alerts.							
		Device should have parameter recall for rapid set-up.							
		Device should have an audible alarm for neutral plate dislodgement.							
		Device should be able to produce very sharp and precise cutting, negligible lateral heat production, and adequate haemostasis							
		Device should come with a foot-controlled handpiece.							
		Device should come with a handpiece clip.							
		Device should come with a three-button finger switch handpiece.							
		Device should be a quieter system, small, lightweight generator for easy portability.							
		Weight of the machine should not be more than 10kg.							
		Device should come with a reusable medical electrode kit.							
		Device should come with a reusable neutral plate that does not require skin contact.							
		Device should come with an instantly ready to use hand piece.							
		Device should have platform to use multiple electrodes, for various surgical procedures.							
		Device should be able to treat following indications –moles, verrucae vulgaris, rhinophyma, nevus, papilloma or flat warts, seborrheic keratosis, hemangioma, venous lake, benign lesions of scalp, soft fibroma, telangiectasia, keloids.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		26. Standard accessories should include: 1. Neutral plates 2. Two sets of surgical electrodes (loops, balls, knives, pin, finewire, needle, sharp pointed electrodes, scalpel, coagulation ball). Loops should be round, oval, triangular and diamond shaped. Electrodes' proximal diameter should be 1.6 mm and 2.4 mm, to accommodate standard hand piece connection. 3. RF Surgipens 4. Bipolar forceps with cable. 5. Instruction manual							
	Essential requirement:								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		• Application software and interface connection Included.							
		• Service manual and operation manual {Hardcopy & Softcopy}							
	Maintenance:								
		Preferred less maintenance needed. 2 years free maintenace.or more							
	Other specification	Please specify other specification							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز مراقبة كهربائية القلب					0				
NO	Telemetry Equipment				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
		The system must be FDA approved and CE marked							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
4	**Technical Specification:**								
		Equipment must be able to monitor patient vital signs including but not limited to blood pressure and heart rate							
		Must have capability of continuous monitoring of 12 lead ECG capabilities, SpO2 and Respiratory Rate.							
		Equipment must communicate with real time direct access to transceivers and monitor data to a local monitoring system with wireless capacity with ability to pick up a signal in the patient rooms identified in the floor plan							
		Equipment must be wearable and durable as patients may be mobile or transported from room to room.							
		Equipment must be easy to clean for infection control purpose							
		Sound alarm must be included, and will be based on patient needs to alarm the main information center							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Documentation and Manuals**								
		Contractor must provide at least one (1) operating manual, (1) service manual {Hardcopy & Softcopy} any other relevant reference material. Documentation must be in English							
6	**Essential requirement:**								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		Application software and interface connection Included.							
7	**Maintenance:**								
		Preferred less maintenance needed. 2 years free maintenace.or more							
8	**Other specification**	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات وحدة القسطرة القلبية					0				
NO	CARDIO Catheter Lab				0				
	Standard	Requirements							
	CARDIO Catheter Lab								
I.	Description of the expected function: Dedicated flat panel detector single plane angiography system for interventional cardiovascular procedures. The firm without any additional cost should supply any updates of quoted model if available in the market at the time of supply.								
	2. Operational Requirements with minimum specification: (Main features in brief) State of the art, single plane floor or ceiling mounted C-Arm/G-Arm cardiovascular digital imaging system with high resolution flat panel detector technology for diagnostic procedures and interventional cardiovascular procedures e.g. coronary angioplasty, baloon valvuloplasty, vascular Angiography, online DSA etc. with following capabilities: • Should be capable of real time digital angiography acquisition. • Should be capable of road mapping with zoom, freeze frame and advanced facilities. • Should be capable of storing fluoroscopy / cine sequences on hard disk and GD for review.								
	• Should be capable of head to toe patient coverage without changing position of the patient. • Should be user-friendly for quick access and full control of all functionality within the examination room. • Should be capable of 100% UPS backup for the entire system for at least 30 minutes. • The system must include all packages for Cardiac applications. System should be complete with pressure injector, Hemodynamic Study Recorder. • The Cath Lab System should be compatible with all the current models (of standard companies) of IVUS, FFR (Fractional Flow Reserve) and EPS & RFA systems if necessary.								
II.	The equipment should be of the state of the art design, incorporating all the latest facilities and modern concepts of digital angiography systems. Only a single model of such system should be quoted. All components must be compatible with the main system and with each other.								
III.	The main Angiography system should be FDA &CE approved . Copies of certificates should be attached.								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
1		**C-Arm Multi-directional**							
	1	C-Arm Multi-directional, should be ceiling-mounted or floor mounted with equivalent maneuverability for unobstructed resuscitation during cardiac arrest, while continuing to do fluro and/or cine at various angulations without any obstruction at the head end.							
		NOTE :-you should give us the price with ceiling- mount and floor mounted							
	1,2	should be capable of performing coronary angiography and coronary angioplasty and balloon mitral valve and other cardio logical interventions							
	1,3	All movements should be motorized with C-Arm angulations of minimum RAO/LAO +105 deg. / -105 deg. CRAN/CAUD +45/-45. at head end position; with 20 deg. / sec. or more speed for LAO/RAO and 15 deg./sec or more speed for CRAN/CAUD.							
	1,4	All movements should be in 1 steps. In addition, motorized movement of the detector on the vertical axis at specified speed must be available.							
	1,5	The system should have at least user defined 30 programmed position of the C-arm.							
	1,6	Manual and also motorized parking of C-Arm in case of catastrophe for resuscitating the patient							
	1,7	Motorized peripheral position for peripheral and vascular intervention should be available.							
	1,8	System should be capable of doing head to toe coverage without repositioning the patient.							
	1,9	The C arm should have auto-collision protection with patient & the table							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	1,10	Facility for motorized / manual positioning / rotation of the stand / ceiling pivot to enable left side, right side and head side imaging for improved workflow and for ease of operation from both left and right side of the patient in addition to zero degree normal head end position. Patient access should be possible from either right side or left side							
	1,11	Isocentre to floor distance for frontal C arm should be at least 100 cm or more.							
	1,12	All movements of the gantry should be controllable from the table side.							
	1,13	Gantry depth should be more than 90 cm for better groin access							
2		Table							
2,1		Floor mounted floating long table with carbon fiber table top with easy patient transportation capability. Head-up and head –down tilt facility should be available							
2,2		The table should have motorized up/down, four way table top with least radiation attenuation and capable of maximum loading capacity of 250kg or more in metal free overhang area							
2,3		**The table should have**							
	2.3.1	Length at least 280cm							
	2.3.2	Lift speed of at least 2cm/s							
	2.3.3	Standard size free floating with adjustable vertical level 77-110cm							
	2.3.4	Carbon fiber table top pad with comfort mattress							
	2.3.5	Thermal mattress & binder for children							
	2.3.6	Instrument Table completely made of SS 304 – 2Nos (Length: 130cm, width-45cm, Height-80cm(top span from floor), with 2 span(rack) with side rail on three sides, wheel size- diameter not less than 10cm)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
2,4		**Accessories to be provided for the table and mattress:**							
	2.4.1	i. Accessory clamps							
	2.4.2	ii. Detachable Arm support- 2 Nos							
	2.4.3	iii. Drip stand							
	2.4.4	iv. Head end holder							
	2.4.5	v. Head rest							
3		X-Ray Generator:							
	3,1	80 KW latest technology, high frequency generator compatible with high resolution imaging along with facility to automatically adjust the dose according to the size of the patient							
	3,2	Should have minimum Radiographic range 40-125 KVp and fluoroscopy range of 60-120 KVp.							
	3,4	Should have automatic exposure control for all modes of operation.							
4		X-Ray Tube:							
	4,1	X-Ray tube should have at least 2 focal spots (larger not more than 1mm) with more than 25kW and 60 kW output in small and large foci respectively.							
	4,2	The X-ray tube should have high cooling rate with liquid bearing technology or equivalent for continuous and noiseless operation and capable of pulsed fluoroscopy on both focal spots.							
	4,3	The X-Ray tube should have anode heat storage capacity of more than 2.4MHU to run continuously for at least 6-8 hours without shutting off							
	4,4	Fluoroscopic power shall be at least 3000 watts, to support long interventional procedures							
	4,5	Small focal spot not more than 0.5 mm and Iarge focal spot not more than 1.0mm with a loadability of at least 80 KW tube power.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	Radiation protection								
	5,1	The system should have integrated computer controlled (automatic) X-Ray Beam filtering with copper filters.							
	5,2	The system should have positioning of collimator blades without radiation.							
	5,3	The system should have monitoring and display of X-ray dose during the patient examination.							
	5,4	system should have a facility to remove the anti-scatter grid on the detector for ensuring lower dose in pediatric imaging							
	5,5	The system should have collimator blade positioning facility without radiation.							
	5,6	Latest radiation protection features to be offered. The system should have radiation protection feature without significant deterioration of image quality. Should be possible to export dose through DICOM. Please specify the details of the features offered							
6	Digital imaging System								
6,1		(i) The flat detector should be with a diagonal size of at least 25cm X 25 cm with a pixel size of not more than 180µm. The smaller pixel size will be preferred. At least three zoom steps to be provided.							
6,2		Digital system with acquisition and processing in 1024 X 1024 matrix at 7.5/15/30 fps in both fluoro and digital cine modes.							
6,3		Digital fluoro loop store/replay facility & Last image hold during fluoroscopy.							
6,4		Fluoroscopic storage facility with at least last 20 seconds or previous 450 frames once the fluoro switch is off(backward storage); unlimited and continuous forward fluoro storage facility with excellent quality of stored fluoro images							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
6,5		Complete cardiovascular computation software package including clinically validated coronary, ventricular software packages (QCA, LVA), Algorithm / software for real time stent visualization should be possible. An easy to operate rapid calculation software for offline coronary quantification should be available.							
6,6		Facility for storage at high, medium or low fluoro							
6,7		Facility for side-by-side still image; road map facility should be provided so as to support all anatomical areas and all interventional procedures with facility to overlay selected reference image with fluoroscopy							
6,8		Image storage capacity of at least 20,000 images in 1024 x 1024 matrix at minimum 12 bits on the main system disk							
6,9		Dedicated keys / touch pad for review/zoom, play/pause previous /next image, store /recall reference images at the table side.							
6,10		There should be facility to enter the patient demographics from the examination room or the console room							
6,11		The full system should have table side control operation for complete acquisition and post processing capabilities.							
6,12		Selection of stent enhancement and DSA should be possible from the examination room							
6,13		The system should have on-line & off-line coronary and left ventricular analysis program.							
6,14		The software should have Auto calibration facility for stenosis measurementwith edge enhancement and geometrical and densitometry calculations.							
6,15		The analysis should be possible from table side in the examination room and from the control room.							
6,16		Capability of ECG display in the examination room							
6,17		The full system should have touch screen control at table side							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
6,18		The system should have on-line DSA of excellent quality with bolus –chase facility with motorized table movement which can be manually controlled.							
6,19		Subsequent PACS connectivity should be possible without any additional hardware / software requirement. Auto image transfer facility to PACS should be possible in background mode.							
6,20		The complete digital system should be networked and connected to a DICOM compatible camera.							
6,21		Should have stent enhancement tool with fade in/fade out facility with all software,hardware, image processing tools for enhancing visualization of the stent and vessel and should be the latest and most technologically advanced version and capable of placing on a separate screen.							
7	Monitors		4						
7,1		The examination room should have 4 medical grade, high resolution monitors of 19” or more for live, reference, stent enhancement images and hemodynamic monitoring.	4						
7,2		Monitors should be ceiling mounted with capability of sliding to view from left and right of the patients.							
7,3		Facility for sharing some of the monitors for display of stent enhancement images, IVUS, FFR and EP should be possible.							
7,4		One high resolution medical grade TFT/LCD monitor for post-processing and reporting in the console room.							
7,5		Control room: One / two LCD/TFT monitors for data and image viewing.Brightness should be at least 500 Cd/m2. These monitors should have the facility for all review post processing and quantification of coronary and ventricular function for training and teaching.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7,6		Another monitor in the console room for live scenes							
7,7		All monitors should be medical grade having :							
	7.7.1	Flicker free, distortion-free							
	7.7.2	high resolution							
	7.7.3	High contrast							
	7.7.4	Wide viewing angle							
	7.7.5	Brightness at least 600cd / m2							
	7.7.6	Automatic gain, brightness control							
8		Console Work station and Digital Archiving							
		A state of the art workstation should be provided.							
	8,1	Facility for acquired images to be transferred to the workstation seamlessly without interrupting the procedure; there should be 2 way digital image communication between the workstation and the procedure room.							
	8,2	Should be able to work with the workstation for review of the previously transferred scenes of same patients or other patients while procedure is going on without interruption.							
	8,3	Work station should be able to archive at least 1000 patients' data with easy irretrievability search by name, date of procedure or cath number							
	8,4	The system should be able to perform QCA facility from the examination room as well as console / workstation and facility to transfer the scenes from archive to the procedure room. Full quantitative analysis package should be provided.							
	8,5	QCA facility should be also available for recorded CD/DVD.							
	8,6	There should be facility to edit and delete selected scenes archived in the work station							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	8,7	On CD/DVD with embedded software for reading, with facility for zoom in and out.							
	8,8	FDA approved system for recording images on DVD_R/ CD_R with DICOM Viewer in DICOM 3 format having capability of receive and transfer of images from cath lab to remote review station.							
	8,9	Dynamic viewing of CD images at frame rate of 0-25 frames/sec, single frame step by step, fast forward & fast rewind ,zoom In or zoom out							
	8,10	Image transfer from digital system in background mode without affecting the system operation.							
	8,11	USB Interface to copy images to memory disk / external hard disk.							
	8,12	There should be facility to connect the workstation to hospital PACS system of any proprietary item for remote viewing and manipulation							
	8,13	should have capability to convert Dicom images into .avi and .mp4 formats with frame editing							
	8,19	1000 rewritable DVD's and 1000 rewritable CD's should be provided							
	8,20	There should be additional review workstation with CD/DVD recorder, laser printer and latest generation computer with 24 inch LCD monitor with storage capacity of at least 1 terabit memory and 8 GB RAM and with licensed version operating system.							
	8,21	In addition to the console workstation, additional review workstation to be provided. If the console workstation do not have any of the stipulated specification, an additional workstation complying with the stipulated specification shall be provided.							
	8,22	The system should be capable of giving still images minimum 300dpi in tiff, PNG and JPG format							
NOTE	**Ancillary Equipments to be supplied along with the Angiography system by the supplier.**								

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9	Hemodynamic Recorder								
9,1		The following features should be available in the recorder							
	9.1.1	12 Lead ECG Amplifier with floating input							
	9.1.2	At least 3 or more pressures with floating inputs							
	9.1.3	Facility to measure oxygen saturation							
	9.1.4	Disposable transducers 20 numbers should be provided							
	9.1.5	Laser Printer with minimum 16 MB memory with minimum 1200 dpi							
	9.1.6	it should be capable for storing and printing pressure waveform and ECG							
	9.1.7	Should be able to measure dp/dt gradients, SpO2 & NIBP values							
	9.1.8	Should support adult and paediatric examinations							
	9.1.9	Should have facility for zero balancing and cardiac output start directly at table side.							
	9.1,10	On-line valve area, gradient measurement, EDP measurement Package							
	9.1.11	Should be possible to transfer study data via DICOM format and have facility for DVD-R/ CD-R burner for archiving of study data.							
9,2		The patient connection box should be easy to install at the patient table in the examination room							
9,3		18" or more color monitor for patient dialog and real time waveforms with programmable layout and digital monitoring readout							
9,4		A 18" remote color wave form monitor, to be mounted in the examination room with video switch between patient dialog and real time waveforms.							
9,5		Radiolucent ECG cables - two sets.							
9,6		The recorder system should be integrated with the angiographic system so that patient demographics once entered should automatically captured by the recording system							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10	Standard Accessories to be supplied								
	10,1	Lead Glass 200 x 100 cm.or bigger with lead equivalent to be fixed between console room and gantry	1						
	10,2	Lead Aprons	6						
	10,3	Thyroid Guard lead less.	5						
	10,4	Light-weight leadless single –piece aprons with front and back coverage .	3						
	10,5	Light-weight leadless – skirt and vest with fastening belt.	3						
	10,6	Ceiling-suspended operation lamp, cool LED . Focused ceiling mounted	1						
	10,7	Leadless head gear radiation protection and light weight lead goggles and Lead Stockings and Lead Gloves	8 for each						
	10,8	Ceiling suspended radiation protection light with a handle for positioning the light. This handle should be removable.and autoclavable nos. 4	1						
	10,9	Table mounted lower body radiation protection - 1 no.	1						
	10,10	Ceiling-suspended operation lamp	1						
	10,11	Test phantom with suitable inserts for fluoroscopy							
	10,12	Quality Assurance as per the recommendations shall be done after installation, once in every year and after replacing any major spare related to X-ray production in the warranty period and CMC period at free of cost.							
	10,13	One Laser Network Printer with high resolution.							
	10,14	Footswitch for fluoroscopy and acquisition to be provided.							
	10,15	Console Room Chairs (godrej/featherlite/wipro/equivalent) and adequate number of tables for workstation & accessories. Rate to be included along with the main equipment.	4						

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11	High Pressure Injector								
	11,1	A state of the art High Pressure Injector . Automated motorized high speed – single head- angiographic pressure injection system (make and model of Injector to be clearly indicated in offer along with detailed technical brochure)	1						
	11.1.1	150ml reusable syringes	5						
	11.1.2	150 ml disposable syringes	100						
12	Online UPS		1						
		Online UPS with suitable KVA more than the maximum rated power of cathlab sufficient for at least 30 minutes back-up for the angiographic machine, console,workstation, all lights and computers in the cathlab area. The battery shall be covered under warranty and CMC period.							
13	desktop computers								
		desktop computers (all in one with mouse and key board) . with multi function laser printers(Black & white), 1 TB HDD, 8GB RAM, at least 19" monitor, OS and application software (licensed version) with each machine each							
14	12 channel ECG with PC connectivity		1						
		i. Should have auto and rhythm modes							
		ii. Should have at least one minute disclosure for a selected lead							
		iii. Should have full ECG display with print preview on a monitor with good resolution of at least 640 x 480							
		iv. ECG acquisition should be digital							
		v. Should have at least 50 ECG memory							
		vi. Should have rechargeable battery							
		vii. Print resolution should be at least 200 x 500 dpi							
		viii. Should have Automatic lead reversal detection							
		ix. ECG trolley should be provided as standard accessory							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15		**Warranty:**							
		Warranty of 2-year minimum to be provided for the complete system. CMC for the system							
		and the accessories should include all the spare parts including X-Ray Tube. Spares support							
		for the entire system must be assured for at least 10 years.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		مواصفات محطة (المراقبة المركزي في غرفة متابعة الحالات)			0				
NO		Patient monitoring central station			0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model number	Please specify model number of the offered equipment							
	FDA Approved & CE Marked (MDD)	**Required**							
		The system must be FDA approved and CE marked							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
	Operating System	Microsoft Windows 11 Professional workstation							
	Monitor	Single or dual display with suggested minimum native resolution of 1920 x 1080; minimum 24” in size; single touchscreen display option available							
	Data Input	Standard keyboard and mouse							
	Telemetry ECG Acquisition	500 - 600 samples/second for ECG analysis and transmission. 40,000 -50000 samples/second for pacemaker detection							
	ECG Leads	I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5, V6 (Surveyor S4 with 10-wire ECG cable or Surveyor S12/S19 with AM12M). I, II or III with 3-wire ECG cable. I, II, III, aVR, aVL, aVF and V with 5-wire ECG cable.							
	Specification								
		Shall collect and display real-time data from bedside monitors							
		Shall collect and display real-time data from telemetry patient monitors (preferable)							
		With capability to display brief status for all monitored/connected patients simultaneously							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		With capability to display full data for single patient							
		With preset and configurable user interfaces/layouts							
		With capability to preview all monitored parameters at the bedside monitors such as: ECG (all channels), SpO2, Respiration, Temperature, NIBP, IBP (all channels)							
		With audio-visual alarming							
		With capability to preview and adjust alarm limits for each bedside monitor							
		With simultaneous alarm silence at central station and bedside patient monitor							
		With Full disclosure (duration: 72 hours)							
	Trending:								
		Duration: 48 hours or more							
		Numerical and graphical trending for all monitored parameters							
	Events:								
		Duration: 72 hours or more							
		Capacity: 1000 event per patient for all monitored patients or more							
	Arrhythmia analysis:								
		Advanced detection/classification of different types of arrhythmias for adults and pediatrics							
		Shall detect and classify arrhythmias including (but not limited to): Ventricular Fibrillation, Ventricular Tachycardia, Supraventricular Tachycardia, Ventricular bigeminy, Sinus Bradycardia, Sinus Tachycardia, Asystole,							
	ST segment analysis:								
		Advanced monitoring and analysis of ST segment deviation for adults and pediatrics							
		Continuous for all monitored leads							
		Adjustable ISO and ST points for each lead (preferable)							
	Drug Calculation Capability	(preferable)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Number of bedside monitors that are monitored/connected to the central station: the central station shall be capable to monitor/connect to up to 20 patients simultaneously. However, the exact number of patients monitored by each central station shall be defined in coordination with the client, based on the exact number of patient beds in each department.							
	Central station's PC:								
		Processor: A latest compatible at time of delivery							
		Processor speed: 3GHz, or highest compatible							
		RAM: 4 GB DDR3, or latest compatible at time of delivery							
		Hard desk: 500 GB, or highest compatible							
		With latest compatible Windows operating system and all required software and licenses required for fully functional system							
		With 21" Color LED screen (minimum)							
		With other required accessories for full functionality, including keyboard and mouse							
		With networked color laser printer (1200 x 1200 dpi), for multi-format reports generation							
	Network to bedside patient monitors:								
		The network between patient monitors and central station shall be via a segregated and dedicated network, i.e. it shall utilize its own Ethernet cables and switches/routers, independent form the hospital's IT network. Virtual Local Area Networks (VLAN) shall not be accepted (unless otherwise requested by client). The unit supplier shall coordinate with client, contractor and pertinent IT subcontractor							
		IEEE 802.3 Gigabit Ethernet Interface; the Surveyor Central System uses a dedicated network that is isolated from the customer's enterprise network by a firewall; the Surveyor S4 monitor uses a dedicated BSSID on the customer's existing WiFi infrastructure							
		The central station's supplier shall supply and install all components/systems that are required for full functionality, including (but not limited to):							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Servers and PCs							
		Dedicated switches and routers. (such components shall be compatible with the IT network in the hospital. Brands/models shall be subjected to client approval)							
		Dedicated network materials (such as: compatible shielded Ethernet cables, connectors etc), unless otherwise requested by client							
		The unit supplier shall liaise with client, pertinent contractors and subcontractors, including suppliers of bedhead units, service columns etc at the designated rooms (i.e. where the bedside patient monitors will be installed), to coordinate the installation of the dedicated network between patient monitors and central station							
	Connectivity/Interfaces to other systems and networks:								
		The central station shall be networkable to share data with other hospital networks including:							
		Electronic Medical Records, Hospital Information Systems (HL7 platform), etc. Supplier shall coordinate with client and pertinent suppliers/subcontractors							
		With capability to preview bedside monitors from doctors' PCs and portable tablets, inside and outside the hospital, for at least 5 doctors. Supplier shall coordinate with client and pertinent suppliers/subcontractors							
	Alarms	High HR, low HR, tachycardia, bradycardia, cardiac arrest, ventricular tachycardia, sustained ventricular tachycardia, ventricular fibrillation, ST segment change, extended arrhythmias (bigeminy, irregular rhythm, couplets, high ectopic rate, resting ECG QTc), SpO2 and technical alarms such as lead fail, low battery, patient call and noise. Bedside monitoring only: pause, non-invasive blood pressure, invasive pressures, temperatures, respiration and CO2. Telemetry monitoring only: trigeminy, QRS morphology change, R-on-T, missing QRS and pacemaker failure, impedance test and transmitter out of range							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Power supply:								
		LINE POWER, VAC : 100-240, 50/60 Hz							
		Shall include Uninterruptable Power Supply (UPS), for the central station's PC							
		UPS running time: 15 minutes (minimum)							
	Installation	Installation & Commissioning must be done by manufacturer engineer							
	Training	User /Nurses training, by Specialist from the Suplier.							
	Warranty/After Sale Service	Two Years or more comprehensive onsite warranty of entire system (Spares and labour)							
	Essential requirement:								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		• Service manual and operation manual {Hardcopy & Softcopy}							
	Maintenance:								
		Preferred less maintenance needed. 2 years free maintenace.or more							
		application software and interface connection Included.							
	Other specification	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات وحدة جهاز الايكو للقلب عبر منظار المري					0				
NO	Echo-cardiovascular Unit with TEE Probes				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin.							
2	**Model number**	Please specify model number.							
3	**Safety standard**								
	FDA Approval	Required							
	CE marking	Required							
4	**CLINICAL APPLICATIONS**	Adult and pediatric							
5	**Design & quality**	Mobile system on four castors , two with brakes High quality							
7	**System technology**	High performance, highly mobile and easy to use dedicated Should be of latest model and must have the latest technology, The system must be latest generation, new model, Digital Radiography System able for high load & hard work. Echo-cardiovascular imaging system designed mainly for Cardiac and Vascular, applications; and can support additionally, Abdominal Musculoskeletal, Urological, Small Parts, Superficial, Pediatric, Neonatal and Transcranial and other applications.							
8	**Scanning modes**	-System should support the following modes (even if optional): - B-Mode, M-Mode, Doppler mode, Color Flow, Continuous wave Doppler, Pulsed Wave Doppler, Real time duplex and Triplex mode.							
9	**Scanning Parameters**	Cine loop playback (Max number frames 960 MB)							
		Displayed Imaging Depth up to: ≥ 30 cm							
		Single or dual focus in cardiac imaging.							
		Harmonics imaging. CHI/THI							
		Scanning parameters for each mode to be stated.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10	**Standard scanning and image enhancements features. (Must be in the system).**	- 3D freehand. - 3D automatic. - 4D automatic. - B-mode. - Contrast harmonic imaging. - Tissue harmonic imaging. - Yissue Doppler Mode. TDI - M-mode. - Doppler. - Color Doppler imaging (CDI), 3D/4D. - Power Doppler imaging (PDI), 3D/4D. - Continuous wave Doppler. - Pulse wave Doppler PWD. - Duplex mode. - Triplex mode. - Tissue Doppler imaging. - B/M, Color Flow. CF - Auto Optimization(for B-mode, Color Doppler and PW/CW Doppler), -- Virtual Convex (Trapezoid view for Linear probes) for linear probes. - Compound imaging (for convex and linear array probe).							
11	**Standard scanning and image enhancements features. (Must be in the system) Cont..**	Cine memory (to be stated)							
		System should include an auto optimization programs for:							
		Automatic optimization of B mode.							
		Automatic spectral optimization in Doppler mode. (base line and scale).							
		Automatic color optimization in color mode.							
		Real-time duplex or Triplex Mode							
		Adjustable transmit focus							
		Automated PW Doppler image optimization							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Dynamic receive focus							
		Grayscale levels							
12	**Display Modes**	Live and Stored Display Format: Full size and split screen - both w/ thumbnails. For Still and CINE.							
		Review Image Format: 4x3 or similar, and "thumbnails". For Still and CINE.							
		System should support simultaneous modes capability like:							
		Dual B (B/B); / B/PW;/ B/CFM; / B/M; / B + CFM/M							
		Real-time Triplex Mode (B + CFM +CW/PW)							
		Virtual convex mode on linear probes.							
		Multi Image Split Screen Live and/or frozen.							
13	**Advanced Cardiac applications.**	System should support Automatic calculation of ejection fraction EF using simpson method with ECG Gating.							
		System should support Anatomical M mode that suport the rotation of M cut line to any direction.							
		System should support Stress Echocardiography with didicated protocols.							
		Speckle-tracking strain and strain rate							
		Exam protocols							
		Digital calipers (Distance, area)							
14	**Image processing**	System should support the following image processing features:							
		Steerable Doppler with all imaging probes							
		Dynamic Gain compensation.							
		Dynamic reject.							
		Adjustable display parameters for the following: Gain, reject, compress, color maps – can be adjusted in live or digital replay or image clipboard recall.							
		- Adjustable velocity scale in Doppler. - Adjustable wall filters. - Adjustable angle correction with automatic adjustment of velocity scale in live; - Digital replay and image clipboard recall							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		- System must support harmonics imaging. - System should support image compounding or Linear probes. - The software must support sector tiling in cardiac imaging.							
15	**Data Storage and Backup**	Digital storage hard drive, ≥ 1 TB SSD or more							
		The system should offer on board patient database for patient data and their images.							
		The software should provide an easy backup method to back up patient data and images on CD/DVDs or on remote DICOM Station.							
		Ability to store patient images and data on USB/CD/DVD with viewer that work on any PC without any additional software.							
		On board CD/DVD for backup of patient images.							
16	**Reporting**	The system should have an integrated reporting software with the ability to customize the design, add the logo and etc.							
		Reports Must include Exam results including patient info, exam info, measurements, calculations, images, comments and diagnosis of the doctor.							
		Several Standard templates should be provided and able to add new report templates as required.							
		The software should be able to convert reports to PDF formats.							
		Reports must be printable to any regular office color printer with high quality settings.							
17	**Measurements, annotations and calculations:**	Comprehensive software, annotation, calculations including Real Time Auto Doppler calculations and basic report packages supporting Cardiac, general imaging, obstetrics, gynecology, vascular and urology.							
		Renal Calcs; Urological Calcs ; OB Calcs ;Fetal Trending; Multi Gestational Calcs; Gynecological Calcs; Vascular Calcs; Cardiac Calcs; Real-time Auto Doppler Calculations							
		System must support row data saving so as to allow user to change some scanning parameters like gain/ gray map etc...and do measurements off patient.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		System should have a customizable standard annotation library.							
18	**DICOM 3.0 COMPLIANT**	Required							
19	**Monitor**	Split screen (Twin View)							
		20 inch (at least) color LCD/LED monitor with swivel arm to allow rotation/ movement in/out and up/down.							
20	**Probes:**	System should support up to 4 active probe ports. Each Probe must have several presets with the ability to create user defined presets of scan settings.							
21	**Required Probes:**								
	Phased array sector Probe- Adult:	Applications: Adult Cardiac; Probe Band Width : 1.5 - 3.6 MHz (or better) ; 90 Degree viewing angle; 30 cm penetration depth. If Matrix probe is supported please quote (preffered).							
	Phased array sector Probe-Pediatrics:	Applications: Pediatric Cardiac; Probe Band Width : 3 - 8 MHz (or better) ; 90 Degree viewing angle; 15 cm penetration depth or better.							
	TEE Probes	Applications: adult TEE cardiology. 7.5-2.5 Mhz adjustable frequency range. 90 Degree Field of view and depth up to 30 cm.							
	TEE Probes	Applications: Pediatric TEE cardiology. 3- 8 Mhz adjustable frequency range. 90 Degree Field of view and depth up to 30 cm.							
22	**Probe presets:**	System should have ready configured presets for each probe application and should allow user to store additional presets as required.							
23	**Peripherals**	Standard Color Video printer							
		System should support the connection to computer printers color using USB port.							
		ECG module with ECG kit.							
24	**User Interface:**	The system should include full alphanumeric keyboard.							
		Touch screen interface is very much recommended.							
		Ultrasound functions keyboard should have a presets buttons for easy access of certain functions in the software.							
		System should have at least 6 TGC Pods, with Re-mapping Functionality at Any Depth.							
25	**User Documentation**	On board user manual.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Service manual							
		Printed hard copy of user manual must be attached with each system.							
26	**Certification from the manufacturer:**								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn’t response when needed.							
27	**Maintenance:**								
		preferred less maintenance needed. 3 years free maintenace or more							
		Service manual operation manual {Hardcopy & Softcopy}							
		application software and interface connection Included.							
		spare parts list with code NO							
28	**Power Requirements**	100 - 230V AC, 50Hz							
29	**Other specification**	Please specify other specification							

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اجهزة قسم العمليات

Operation room Department

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم العمليات							
		Operation room department							
		مواصفات جهاز التخدير			0				
NO		Anesthesia Machine with Ventilator			0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**								
3	Safety standard	FDA approval or CE marking							
3	**Safety standard**	FDA approval or CE marking Product circulation certificate in Europe and the United States of America							
	FDA CLEARANCE	Required							
	CE MARK (MDD)	Required with							
		Verified compliance with below standards through submission of test reports or certificates: - IEC 60601-1:2005 + A1:2012(E) Medical electrical equipment - Part 1: General requirements for basic safety and essential performance. - IEC 60601-1-2:2014 Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests - IEC 60601-2-19:2009+AMD: Particular requirements for the basic safety and essential performance of Anesthesia machine							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
Oty-1		**Anesthesia Machine with Ventilator&Patient monitor**							
4	Design	Compact , heavy duty and high quality							
4	**Design & quality**	Compact , mobail with Four casters two with brakes, heavy duty and high quality							
	Type	Mobail with Four casters with brakes, new model, able for high load & hard work.							
4	**PATIENT TYPE**	Adult, pediatric, Neonat							
5	**System components**								
5.1		Original cart with antistatic braked castors, shelves and 2-3 drawers. The basic unit must form rigid stable and easy for use.							
5.2		Ventilator							
5.3		Multi vaporize capability							
5.4		Regulators and flow meters							
5.5		CO2 absorber							
		Spirometer							
5.6		Spirometer and patient circuits							
5.7		patient type: adult, pediatric, neonate							
5.8		SCAVENGING SYSTEM:Active or passive							
5.9		patient monitor							
		Adult and Pediatric autoclavable silicone breathing circuits X2							
5.10		Medical air comperasor							
		Adult and Pediatric Ambu Bag X2							
		Adult and Pediatric Endo tracheal tubes sets X2							
		Adult and Pediatric Air way with Mouth prop and Tongue depressors							
6	**Circulation system**								
6.1		Compact							
6.2		Sterilizable							
6.3		Changeable from rebreathing (closed) to non-rebreathing (open)							
7	**Gas mixing system**								
7.1		Mechanical safety system							
7.2		O2 flow meters (two tubes)							
7.3		N2O flow meters (two tubes)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7.4		Air flow meters (one tube)							
7.5		Nitrous oxide blockage with constant alarm							
7.6		N2O , O2 ratio control							
7.8		Control of gas supply for O2 and air and for all gases							
7.9		Safety valve built in to patient system							
8	**CO2 absorber**								
8.1		Bag /ventilator switch							
8.2		By-pass switch							
8.3		Pressure reading (Manometer or Electronic)							
8.4		canester (2 kg capacity or 1.5 L)							
9	**VAPORIZERS, AGENTS**								
9	**Vaporizer**								
9.1		Selecta tic type							
		Two vaporizers							
9.3		Fast coupling system							
9.4		Supplied with sevoflurane							
9.5		Supplied with isoflurane							
	Mounting mechanism	Selectatic type or better							
		Fast coupling system							
	Type	Variable bypass or better							
	Interlock	Required							
	Agent level indicator	Required							
10	**Gas Anesthesia monetoring**	Included							
10	**Gas Anesthesia monetoring**	Preferab							
11	**O2/N2O cylinders yokes.**								
11	**O2/N2O cylinders yokes with cylinders**	Included							
12	**O2**								
13	**O2–flush**	Included							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
14	**O2 FAIL-SAFE**	Required							
15	**Mechanical anti hypoxic device (AHD)**	Included							
16	**HYPOXIC MIXTURE FAIL-SAFE**	Required							
17	**Central gas supply**	O2/N2O/Air, medical quality 3-6 bar							
18	**(Pipeline gas inlet)**	Selector switch for O2/N2O and O2/Air							
19	**Flow meters**								
		Color coded							
		O2 : 0.05-15 L/min or better							
15.2		O2 : 0.05-10 L/min or better							
15.3		Air: 0.2-12 L/min or better							
		Air: 0.2-15 L/min or better							
		N2O: 0.05-10 L/min or better							
20	**Ventilator**	Electronically controlled							
21	**Electronically controlled**	Required							
22	**Bellow system**								
		Range from pediatric to adults							
		Standing , easily seen							
23	**Ventilation modes (selectable)**								
16.2-1		Stand by							
16.2-2		Spontaneous							
16.2-3		Manual							
16.2-4		CMV (Pressure control/ Volume control)							
16.2-5		SIMV							
16.2-6		pressure support, advanced modes							
24	**Monitor parameter readings**								
16.3-1		Volume							
16.3-2		Pressure (Peak , Peep)							
16.3-3		Oxygen							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
16.3-4		Frequency							
16.3-5		I : E ratio							
	Airway pressure	Required							
	High-pressure alarm	Required							
	Subatmospheric pressure alarm	Required							
	Continuing pressure alarm	Required							
	Low pressure/apnea	Required							
	Expiratory volume/flow	Required							
	Type of sensor	Flow sensor							
	Where measured	Required							
	Rate alarm	Required							
	Apnea alarm	Required							
	Reverse-flow alarm	Required							
	High/low minute volume	Required							
	High/low flow	Required							
	O2 concentration	Required							
	Type of sensor	galvanic, paramagnetic							
	Response time, sec	<15							
	Agent monitors	Required							
	Frequency	Required							
	I : E ratio	Required							
25	**Monitor graphic waveforms**	Volume							
		Pressure							
16.5	**Technical data :**								
16.5-1	**Respiration frequency**	5-60 bpm.							
16.5-2	**Inspiration flow**	0-180 L/min							
	Tidal volume	20-1500 ml							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
16.5-3	**Tidal volume**	20-1500 ml (with electronic setting display)							
16.5-4	**I : E ratio**	1:3 to 3:1 or better							
16.5-5	**pressure limit, cm H2O**	Adjustable							
16.5-5	**PEEP**	0-20 cm H2O or better							
	Minute volume	>20							
	Inspiratory pause	Required							
17	**Audible and Visual Alarms**								
17.1		Low/ high pressure							
17.2		Low O2 concentration							
17.3		Low/ high Volume							
17.4		O2 inlet supply failure							
17.5		Alarm interruption 60 sec. with rest function							
17.6		battery alarm							
17.7		Power failure alarm							
28	**Accessories**								
18.1		Anesthesia masks (all sizes)							
		Anesthesia masks high quality use for adulte Reusable type 2 pieces							
		Anesthesia masks high quality use for pediatrics Reusable type 2 pieces							
		Anesthesia masks high quality for neonat Reusable type 2 pieces							
18.2		Sphygnomanometer							
18.3		Suction (pneumatic with jar)							
18.4		Re-breathing bags (all sizes)							
		Re-breathing bags high quality (all sizes) use for adults, pediatrics and neonat.							
		Re-breathing circuit high quality use for adulte Reusable type 2 pieces							
		Re-breathing circuit high quality use for pediatrics Reusable type 2 pieces							
		Re-breathing circuit high quality use for neonat Reusable type 2 pieces							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
18.5		Magil circuit							
18.6		Jackson-read modification of Ayri's T piece							
		Jackson-read modification of Ayri's 2 pieces							
18.7		O2 sensore							
		O2 sensore 2 pics							
18.8		All needed accessories to insure full use for adults, pediatrics and neonat.							
		Test lung for adult 1 piece							
		Test lung for pediatrics 1 piece							
29	**Self diagnostic and error / calibration message**								
19	**Self diagnostic and error / calibration message**	Included							
30	**Internal rechargeable batter**	Required							
31	**Certification from the manufacturer:**								
21.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
21.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
21.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
21.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
21.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
21.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
21.7		Final operating test by manufacturer							
21.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
21.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
22	**Maintenance:**								
22.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
		preferred less maintenance needed. 2 years free maintenace							
		Service manual operation manual {Hardcopy & Softcopy}							
22.2		Service manual operation manual {Hardcopy & Softcopy} - spare parts list with code NO. - **application software and interface connection Included.**							
		Application software and interface connection Included.							
		Spare parts list with code NO							
22.3		Including maintenance and calibration tools.							
27	Co2 analyzer module	including anathesia machine or patient monitor							
33	**Power supply**	100 to 240 V ±10%, 50 Hz, (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1.							
20	**Power supply**	100 - 240 V, 50 / 60Hz							
		Internal rechargeable battery							
34	**Training**	For technical maintenance application and user application.							
35	**Capnography/CO2 monitoring**	**Including anathesia machine or patient monitor of Anesthesia machine**							
36	**Other specification**	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
Patient Monitor With Wall Holder									
Qty-2	**patient monitor of Anesthesia machine**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety Standard**								
3	**Safety standard**	FDA Approval or CE marking Product circulation certificate in Europe and the United States of America							
	CE MARK (MDD) / FDA CLEARANCE :	Required							
5	**Design & quality**								
4	**Design & quality**	Modular, use separate parameter modules or composite module with facility removing any parameter will not affect the others patient type: adult, pediatric, neonate High quality							
		Upgradeable by software and hardware							
1	Type	Wall mounted fixing, New model, able for high load & hard work							
2	patient type	Adult, pediatric, neonate							
3	quality	High quality							
6	**Display size and type**								
5	**Display size and type**	12" min.							
1		12" min or more							
		High resolution multi-color display							
2		High resolution multi-color display LCD color touch screen							
3		Medical type (preferable) or supported with isolation transformer							
7	**Displayed information**								
1		Min. 6 vital waveforms, cab be colored separately							
2		Numeric data for the measured vital parameters							
3		Vital parameters (24) hrs trends							
4		Vital parameters alarms audio visual							
8	**Defibrillation protection**	Available for the measured vital parameters							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9	**Required vital parameters:**								
9.1	**ECG:**								
8.1-	**ECG:**								
8.1-1	**Leads**	12 leads facility							
9.1-1	Leads	Selection (3,6,12 leads facility)							
8.1-2	**Values**	ECG lead waveform, label, HR gain as min.							
8.1-3	**HR range**	30-200 bpm							
8.1-4	**Alarms**	Leads off, Hi + Low HR							
9.1-4	Alarms	Leads off, Hi + Low HR, Atrium and ventricle tacicardia, Atrrium and ventricle vabrilatione.							
8.1-5	**Gain**	5, 10, 20 mm/mV							
8.1-6	**Preferable items**	ST, Arrhythmia, cascade ECG							
9.2	**Respiration:**								
9.2-1	Technology	Impedance							
9.2-2	Values	Respiration waveform, R.R.							
9.2-3	R.R. range	5-80 bpm							
9.2-4	Alarms	Hi & low R.R.							
9.2-5	Apnea alarm	15-25 sec. Preferable							
9.3	**NIBP:**								
9.3-1	Technology	Oscillometric							
9.3-2	Values	SYS , DIA , MEAN , P.R.							
9.3-3	Modes	Auto, Manual							
9.3-4	**Cuff pressure range**								
8.3-4-1	**Required**	Up to 250mmHg Adult							
8.3-4-2	**Required**	Up to 200mmHg Pediatric							
8.3-4-3	**Required**	Up to 150mmHg Neonate							
9.3-4-4	Alarms	Hi and low, SYS, DIA							
9.4	**SPO2**								
9.4-1	Values	SPO2 waveform, SPO2% , P.R.							
9.4-2	SPO2 range	50 - 100 %							
9.4-3	Pulse rate range	25-200ppm							
9.4-4	Alarms	Hi & low SPO2 + P.R. sensor off							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9.5	**Temperature:**								
9.5-1	Values	T1 and or T2							
9.5-2	Range	30-45°C							
9.5-3	Alarm	Hi & low							
9	**Required accessories:**								
1		Reusable ECG cables for adult & pediatric							
9.1		10 Leads wire ECG cable Adult & Pediatric							
4		Reusable NIBP cuff with hose for adult & pediatric (4 sizes)							
9.2		NIBP reusable cuff large Adult							
9.3		NIBP reusable cuff Adult & pediatric							
9.4		NIBP connection hoses							
5		IBP interface cable							
2		Reusable SpO2 finger sensor for adult & pediatric							
9.5		SPO2 reusable finger probe + Extension cable adult and pediatric							
3		Reusable skin temperature sensor for adult & pediatric							
9.6		Temperature reusable sensor skin type							
9.7		Original wall mount stand							
6		Mounting arm shall be attached to wall, Bedhead unit or pendant							
7		Shall include all required accessories, modules, cables, software, licenses etc for full functionality							
8		The unit supplier shall provide all required adapters, interfaces etc for the bracket.							
9		Price list for all parameter modules and related accessories/consumables shall be provided							
10	**Priced spare part list**	Please price separately as spare parts the following:							
10.1		Display							
10.2		Operation panel							
10.3		ECG model or board							
10.4		NIBP module or board							
10.5		NIBP pump							
10.6		SPO2 module or board							
10.7		Temperature module or board							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10.8		ECG cable							
10.9		NIBP cuffs							
10.10		NIBP hoses							
10.11		SPO2 adult probe							
10.12		SPO2 pediatric probe							
10.13		Extensions SPO2							
10.14		Temperature probe							
10.15		Power supply							
11	**Essential requirement:**								
1		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
2		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
3		• Spare parts list with code NO							
4		• The supplier must ensure the availability of expertise service and maintenance.							
5		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
6		• Mention the number (with addresses and phone numbers) of installations of quoted units in Yemen							
12	**Maintenance:**								
1		Preferred less maintenance needed. 2 years free maintenace.or more							
2		Service manual operation manual {Hardcopy & Softcopy}							
3		application software and interface connection Included.							
14	**Training**	Service Training for one MWC Bio-Engineer shall be provided within the first year of warranty							
15	**Power supply**	100 to 240 V ±10%, 50 Hz, (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1.							
16	**Other specification**	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات طاولة عمليات الجراحة العامة (الرى)					0				
NO	Operating Table				0				
	Standard	Requirements							
Oty-2	Operating Table "Minor"								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA approval or CE marking							
4	Design	Compact , heavy duty and high quality							
مواصفات طاولة عمليات الجراحة العامة (الكبرى)					0				
NO	Operating Table				0				
	Standard	Requirements							
Oty-3	Operating Table "Major"								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking Product circulation certificate in Europe and the USA							
4	**Design**	Mobail with Four casters two with brakes, heavy duty and high quality new model, able for high load & hard work.							
5	**Operating Table type:**								
6	**Maximum weight capacity, kg**	Static: ≥250							
		Articulated: ≥220							
7	**Table positions**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
8	**Degrees from horizontal**								
9	**Trendelenburg**	≥35							
10	**Reverse Trendelenburg**	≥30							
11	**Lateral tilt**	≥25							
12	**Vertical range, cm**	60-100 height-adjustable							
13	**Table section**	≥5							
14	**Number of core sections**	≥3							
15	**Degrees from horizontal**								
16	**Back section**	70 to30							
17	**Foot/leg section**	20 to 90							
18	**Head section**	45to85							
19	**Controls**	Hand or foot							
20	**Siderail**	Including.							
21	**C-arm accessible**								
22	**Kidney elevator**	Including.							
23	**Base attachment**	Including.							
24	**Column housing**	Including.							
25	**Conductive casters**	Including.							
26	**Caster lock**	Including.							
27	**Accessories:**								
27.1		Anesthesia screen L type with clamp 1 piece							
27.2		Leg Support with clamp 2 pieces							
27.3		Arm Support with clamp 2 pieces							
27.4		Body Support 1 piece							
27.5		IV rod, 1 set, adjustable height with clamp							
27.6		Shoulder rest / support with pad, 2 pieces							
27.7		Head Plate 1 piece							
27.8		Kidney bridge							
27.9		Chest & waist support							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
28	**Certification from the manufacturer:**								
28.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
28.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
28.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
28.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
28.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
28.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
28.7		Final operating test by manufacturer							
28.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
28.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
29	**Maintenance:**								
29.1		preferred less maintenance needed. 2 years free maintenace, including **PM Kit.**							
29.2		Service manual operation manual spare parts list with code NO.							
29.3		Including maintenance tools.							
30	**Other specification**	Please specify other specification							
مواصفات لمبة الاضاءة بالسقف الخاصة بعمليات الجراحة					0				
NO	**Operation Light (Ceiling) AC/DC Complete/Emergency Power**				0				

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Standard	**Requirements**							
Oty-5	**Operation Light (Ceiling) AC/DC Complete/Emergency Power**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking Product circulation certificate in Europe and the United States of America							
4	**Design**	Heavy duty and high quality new model, able for high load & hard work.							
5	**Quality**	high quality							
6	**Light source, type**	LED							
7	**Number of lightheads**	2							
8	**Number of bulbs or elements**								
9	**Volts**	12 V or 24 V							
10	**Life, hr**	≥50,000 Hr							
11	**Color temperature, K**	3,000-5,000							
12	**Color adjustable**	Required							
13	**Color rendering index**	>90							
14	**R9 value**	Required							
15	**Field size, cm Diameter**	≥20							
16	**Focal length, cm**	≥ 70 cm							
17	**Illumination level, maximum lux at 1 m**	140.000 -160.000 Lux at 1.0m							
18	**Mounting**	Ceiling							
19	**CONTROLS**	Required							
19.1	**Dimmer**	With Dimmer							
19.2	**Focus**	Adjustable							
19.3	**Field size**	Adjustable							
19.4	**Alarms**	main lides failure indicator							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
20	**On sterile handle**	On sterile handle sterilizable.							
21	**Rotation**	360							
22	**Vertical adjustment range, cm**	≥80							
23	**Maximum irradiance at 1 m, W/m2**	<1,000							
24	**Heat-to-light ratio, mW/m2.lux**	≤3							
25	**Lighthead material**	high quality Lighthead material							
26	**Shadow control**	Shadow less							
27	**Battery or emergency backup**	Required							
28	**Sterilizable handle**	Required							
29	**Certification from the manufacturer:**								
29.1		Guaranteeing the availability of all spare parts for the next ten (10) years.							
29.2		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
29.3		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
29.4		Final operating test by manufacturer							
29.5		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
29.6		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
30	**Maintenance:**	preferred less maintenance needed. 3 years free maintenace, including consumepal part Service manual operation manual spare parts list with code NO. Including maintenance tools.							
31	**Other specification**	Please specify							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
32	**training**	1 engineer and 1 user							
33	**Power supply**	100 to 240 V ±10%, 50 Hz, (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1.							
34	**Other specification**	Please specify other specification							
مواصفات لمبة الاضاءة المتحركة الخاصة بعمليات الجراحة					0				
NO	**Operation Light (Mobile)**				0				
	Standard	**Requirements**							
Oty-6	**Operation Light (Mobile)**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
4	**Design & quality**	Compact , heavy duty and high quality							
5	**Light source, type**	LED							
6	**Number of lightheads**	1							
7	**Number of bulbs or elements**								
8	**Volts of bulbs**	12 V or 24 V							
9	**Life, hr of bulbs**	≥50,000 Hr							
10	**Color temperature, K**	3,000-5,000							
11	**Color adjustable**	Required							
12	**Color rendering index**	>90							
13	**R9 value**	Required							
14	**Field size, cm Diameter**	≥20							
15	**Focal length, cm**	≥ 70 cm							
16	**Illumination level, maximum lux at 1 m**	140.000 -160.000 Lux at 1.0m							
17	**Mounting**	Mobail							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
18.1	**CONTROLS**	Required							
18.2	**Dimmer**	With Dimmer							
18.3	**Focus**	Adjustable							
18.4	**Field size**	Adjustable							
18.5	**Alarms**	main lides failure indicator							
19	**On sterile handle**	On sterile handle sterilizable.							
20	**Rotation**	360							
21	**Vertical adjustment range, cm**	≥80							
22	**Maximum irradiance at 1 m, W/m2**	<1,000							
23	**Heat-to-light ratio, mW/m2.lux**	≤3							
24	**Lighthead material**	high quality Lighthead material							
25	**Shadow control**	Shadow less							
26	**Battery or emergency backup**	Required							
27	**Sterilizable handle**	Required							
28	**Certification from the manufacturer:**								
28.1		Guaranteeing the availability of all spare parts for the next ten (10) years.							
28.2		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
28.3		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
28.4		Final operating test by manufacturer							
28.5		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
28.6		Technical support from the manufacturer incase the agent or distributor doesn’t response when needed.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
29	**Maintenance:**	preferred less maintenance needed. 3 years free maintenace, including consumepal part Service manual operation manual spare parts list with code NO. Including maintenance tools.							
30	**Battery & charger**	Shall run on mains and battery . When used on Battery (DC) the decreasing of intensity shall be less than 10% Battery shall be equipped with an automatic charger with uninterruptible connection to mains							
31	**Casters**	Four casters ,two with brakes							
32	**Power supply**	100 to 240 V ±10%, 50 Hz, (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1.							
33	**Other specification**	Please specify other specification							
مواصفات جهاز الجراحة الكهربائي (الكوتري)					0				
NO	**Electro Surgical Unit**				0				
	Standard	**Requirements**							
	Electro Surgical Unit								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking Product circulation certificate in Europe and the United States of America							
4	**Design & quality**	Compact, heavy duty and high quality New model & generation							
5	**Safety**	The unit shall be safe to use both for -the operator and the patient. Class I, Protection against leakage current Leakage current monitor (100µ Amperes is max. allowed), protection against electric shocks: class I, Waterproofness.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
6	**Generator type**	Please specify.							
7	**Frequency**	High Frequency.							
8	**Modes:**								
8.1	Monopolar Mode	Cut - coagulate							
8.1-1	Cut mode	Low cut: maximum power of 400w, adjust output power Pure cut: maximum power of 300w, adjust output power Blend mode: maximum power of 300w, adjust output power							
8.1-2	Coag Mode	Maximum 200-300 watts Desiccate mode Fulgurate mode Spray mode							
8.2	Bipolar mode	Precise mode Standard mode Macro mode							
8.3	Self-test mode	Including.							
8.4	Power setting displayed	Including.							
8.5	Cooling : Convection	Including.							
9	**Alarms**	Visual - audible							
9.1	For plate continuity	Including.							
9.2	Excess power	Including.							
9.3	Internal error alarm	Including.							
9.4	Plate voltage alarm	Including.							
9.5	patient electrode safety system	Including.							
9.6	Defeatable-inaudible volume	Including.							
10	**Accessories**	Supplied with :							
10.1	Monopolar Footswitch	Supplay 1 pice							
10.2	Bipolar Footswitch	Supplay 1 pice							
10.3	Reusable hand switching Pencil	Supplay 2 pices							
10.4	Reusable Patient Plate	Supplay 2 pices							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10.5	Bipolar Forceps	Supplay 2 pices							
10.6	Forceps Cord	Supplay 2 pices							
10.7	Universal Adaptor	Supplay 1 pice							
10.8	Trolley	Supplay one trolley with four casters ,two with brakes							
11	**Certification from the manufacturer:**								
11.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
11.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
11.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
11.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
11.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
11.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
11.7		Final operating test by manufacturer							
11.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
11.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
12	**Maintenance:**								
12.1		preferred less maintenance needed. 2 years free maintenace, including **PM Kit.**							
12.2		Service manual operation manual spare parts list with code NO.							
12.3		Including maintenance tools.							
13	**Training**								
14	**Power supply**	100 to 240 V ±10%, 50 Hz, (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15	**Other specification**	Please specify other specification							
	Electro Surgical Unit VESSEL SEALING								
1	**Type**	solid state							
2	**Microprocessor control**					Specify			
3	**Digital color screen**					Yes			
4		Displaying the name of the connected instrument				Yes			
5		Displaying the shape of the used modes				Yes			
6		Display the name of the application				Yes			
7	**Power setting display**					Yes			
8	**FOOT SWITCH ACTIVATION**					Yes			
9	**HAND SWITCH ACTIVATION**					Yes			
10	**Independent output**	Yes				Yes			
11	**Activation Indicator**	Visual & Audible			Visual & Audible				
12	**The unit shall operate in monopolar and bipolar modes**					Yes			
13	**Monopolar Cutting & Coagulation**								
14	**Cut 1 (pure)**	max. 400 W				max. 400 W			
15	**Cut 2 (blend)**	max. 300 W				max. 300 W			
16	**Cut 3 (super blend)**	max. 200 W				max. 200 W			
17	**Forced Prep**	max. 120 W Specify			max. 120 W Specify				
18	**Contact coagulation**	max. 350 W				max. 350 W			
19	**Spray coagulation**	max. 120 W				max. 120 W			
20	**Auto Stop**	Yes				Yes			
21	**Bipolar Cutting & Coagulation**								
22	**Cutting**	max. 350 W				max. 350 W			
23	**Coagulate**	max. 320 W				max. 320 W			
24	**Auto Start and Auto Stop**					Yes			
25	**Bipolar coagulation**	120W				120W			
26	**Pure Cut**	Yes				Yes			
27	**Blend Cut**	Yes				Yes			
28	**Neutral electrode monitor**					Specify			
29	**Bipolar Vessel Sealing Current**					Yes			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
30	PROGRAM AVAILABILITY					Yes			
31	Storing of all relevant parameters In user programs					Yes			
32	Favorite or last used programs available on main screen					Yes			
33	Double Pedal Foot switch					Included			
34	Neutral electrode cable					Included			
35	Neutral electrode, disposable, split surface					Included			
36	Monopolar handle, two push-buttons					Included			
37	Monopolar blade electrode					Included			
38	Monopolar cable					Included			
39	Bipolar cable					Included			
40	Bipolar Forcep					Included			
41	Bipolar vessel sealing forceps for open surgery					Included			
42	Bipolar vessel sealing device for lap. surgery, integrated mechanical cut					Included			
43	Cart	Yes				Yes			
مواصفات جهاز الشفط					0				
NO	Suction Machine				0				
	Standard	Requirements							
Oty-9	Suction Machine								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA approval or CE marking							
5	Type	Electric , silent , mobile , general purpose operated vane pump or piston, High quality							
6	Motor :								
6.1	- Flow rate L/ Min.	Not less than approx. 30 liter / min.							
6.2	- Vacuum , Hg.	Not less than 700 mm.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7	**Vacuum regulate:**	manual kay adjust the vacuum volume to high or low.							
8	**Bottles**	Two collecting jars (2-3) liters fitted with sterilizable rubber bung & fluid valve. Change-over block from jar to other							
9	**Tube**	Suction tube between operation field and suction machine) reusable length 3m Material silicone, Autoclavable							
10	**Castors**	The apparatus should be mounted on four anti-static tired rubber castors							
11	**Filters**	The apparatus should be available with bacterial filters							
12	**2 Spare bottles, 10 spare bacterial filters and 1 tube**	Must be included in the price							
13	**Casters**	Four casters ,two with brakes							
14	**Warranty**	Minimum of 2 years							
15	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
16	**Other specification**	Please specify other specification							
مواصفات جهاز التعقيم (لمبة التعقيم بالأشعة فوق البنفسجية)					0				
NO	**Disinfection Ultraviolet Lamp**				0				
	Standard	**Requirements**							
Oty-10	**Disinfection Ultraviolet Lamp**								
1.	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
4	**Design & quality**	Heavy duty, mobile, compact design and high quality finishing							
5	**tyep**								
5.1		Bacterial Lamp for Air Sterilization							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5.2		UVC shall be emitted thru vacuum ionizing tube (Weak permeation). Useful power shall be at least 45% of nominal power (30W)							
6	**Lifetime**	Lifetime shall be at least 7500 Hrs. Radiation shall be witnessed by means of blue light emission							
7	**Timer**	Timer shall assert the limit period of the ionized tube running							
8	**Casters**	Four casters ,two with brakes							
9	**Warranty**	Minimum of 2 years							
10	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
11	**Other specification**	Please specify other specification							
مواصفات التعقيم الالتراسونيك					0				
NO	**Ultrasonic Cleaner**				0				
	Standard	**Requirements**							
	Ultrasonic Cleaner								
1.	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
4	**Design**	Heavy duty, compact design and high quality finishing							
6	**Type**	Bench top .							
7	**Frequency**	20 – 60 KHZ							
8	**Temperature**	Selectable, controlled.							
9	**Control**								
9.1		Digital control							
9.2		Heater controlled							
9.3		Monitoring temperature							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9.4		Timer included.							
10	**Tank volume**	Single tank , approx. 20 liter							
11	**Insulation**	Included to prevent high frequency sound transmission							
12	**Displays**	Power level (setting), mode, system status indicators (e.g., alarms)							
13	**Maximum amplitude, µm**	>80							
14	**Oscillation system**	Piezoelectric							
15	**Material**	Titanium, titanium alloy							
16	**Accessories**								
16.1		Drain for easy empty of the tank							
16.2		Tank cover							
16.3		Perforated basket or tray							
16.4		instrument holder							
16.5		Including 10 liter of chemical required as specified by manufacturer, for each equipment .							
17	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
18	**Warranty**	Minimum of 2 years							
19	**Other specification**	Please specify other specification							
مواصفات نقالة المرضى					0				
NO	**Patient Stretcher**				0				
	Standard	**Requirements**							
1.	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
4	**Design**	Heavy duty, compact design and high quality finishing							
5	**Construction & features**	Constructed from steel frame epoxy powder coated painting							
5.1		Lever operated back raise							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5.2		Sliding aluminum or chrome plated steel bed side rails							
5.3		Mattress 7cm urethane foam approx. mounted on 15cm total locking castors							
5.4		Revolving plastic bumpers on all four corners diam.150-200 mm approx for protection							
5.5		Trendelenburg position							
5.6		Double hook I.V. rod is included							
5.7		Crank-operated high-low position							
5.8		Oxygen tank holder							
6	**Dimension:**								
6.1	**(L x W), cm**	(210 x 80).							
6.2	**Height, cm**	Height adjustment by hedrulic system (50 – 120)							
7	**Casters**	Four casters ,two with brakes							
8	**Warranty**	Minimum of 2 years							
9	**Other specification**	Please specify other specification							
	Stretcher Re-covery								
1	**AREAS OF USE**	Emergency / Re-covery bay							
2	**FRAME MATERIAL**	Epoxy painted steel							
3	**STRETCHER TYPE**	Hydraulic							
4	**FOOT PEDAL OPERATED**	Yes, both sides							
5	**HEIGHT ADJUSTMENT**					Yes			
6	**TRENDELENBURG**	15 approx.							
7	**REVERSE TRENDELENBURG**	15 approx.							
8	**HEAD ADJUSMENT**	Yes							
9	**STRETCHER SURFACE**	Radio translucent							
10	**X-RAY CASSETTE HOLDER**	Yes, full length							
11	**SIDERAILS**					Yes			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
12	OXYGEN TANK HOLDER					Yes			
13	RESTRAINING STRAPS					Yes			
14	BUMPERS	Yes, all corners							
15	IV POLE SOCKETS	2 or 4							
16	CASTORS	4 or 5, lockable							
17	DIAMETER	20 cm approx.							
18	MAXIMUM PATIENT WEIGHT	Approx 200 Kg							
19	ACCESSORIES	All neceessory accessories							
20	MATTRESS	Yes, durable and easy to clean							
21	PLATFORM DIMENSION IN MM	2000 X 600 approx.							
22	OTHER SPECIFICATION								
مواصفات عربة التخدير					0				
NO	Anesthesia Cart				0				
	Standard	Requirements							
Oty-12	Anesthesia Cart								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
4	Material of Construction	Heavy duty material							
5	Cart Dimension								
5.1	Height	>100 cm							
5.2	Depth	60 - 70 cm							
5.3	Width	50 -60 cm							
6	Drawer Dimension								
6.1	Height	6 - 8 cm							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
6.2	**Depth**	40 -50 cm							
6.3	**Width**	50 -60 cm							
7	**Castors**	Four casters ,two with brakes							
8	**Accessories**								
8.1		Height adjustment I.V. Pole							
8.2		Divided Drawer Tray							
8.3		Tilt Bin Organizer							
8.4		Sharps Container							
9	**Casters**	Four casters ,two with brakes							
10	**Warranty**	Minimum of 2 years							
11	**Other specification**	Please specify other specification							
مواصفات جهاز تنبيب الرغامة اليدوي					0				
NO	**Laryngoscopes**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
4	**Material of Construction**	Heavy duty Stainless Steel 304 or better.							
5	**Light type**	LED							
6	**Accessories**								
6.1		5 LED lampe spaer 3V							
6.2		4 set different size for adult							
6.3		3 set different size for pediatric							
6.4		1 box battery							
6.5		Career case for save the instrument							
7	**Warranty**	Minimum of 2 years							
8	**Other specification**	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
Oty-22	LaryngoscopesAdultPediatric								
1	TYPE, CONVENTIONAL OR FIBER OPTIC	MacIntosh							
2	BLADES								
3	Adult	4 Different							
4	Pediatric	4 Different							
5	ILLUMINATION	xenon							
6	Spare lamps	5							
7	CHARGER,	Yes							
8	Rechargeable Battery	Yes							
9	Power, vac, hz.	220, 60							
10	Wall mounted	to be improvised							
11	ALL ACCESSORIES (ITEMIZEDPRICE)					Yes			
12	OTHER SPECIFICATI(	FDA, CE, ISO Approved							
	Laryngoscope Set Adult								
1	Laryngoscope Set Adult	Yes							
2	BLADES	Yes							
3	Adult (Different Sizes)	4 Different Sizes 1,2,3,4							
4	ILLUMINATION	With Incorporated Fiber Optic Light Carrier inside the Blade (Xenon Light)							
5	Rechargeable Battery Shell	With High Power LED Technology, more than 50,000 lux, Lithium-ion batteries							
6	Handle Sleeve	Yes							
7	Charging Unit	For 2 Rechargeable batteries with power adaptor (110-240 VAC, 60 Hz)							
8	Bag for All Laryngoscopes	Splash - Protected							
9	Other Specifications	FDA, ISO Approved.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Laryngoscope Pediatric								
1	**Laryngoscope Set :**	Neonatal & Infant							
2	**BLADES**								
3	**Pediatric (Different Sizes)**	2 Different Sizes (0,0 / 0,1 / 1,1 / 1,2)							
4	**Pediatric (Different Sizes)**	2 Different Sizes 0,1,2,3							
5	**ILLUMINATION**	With Incorporated Fiber Optic Light Carrier inside the Blade (Xenon Light)							
6	**Spare lamps**	6							
7	**Rechargeable Battery Shell**	With High Power LED Technology, more than 50,000 lux, Lithium-ion batteries							
8	**Reduction Sleeve**	For rechargeable batteries							
9	**Handle Sleeve**	Yes							
10	**Charging Unit**	For 2 Rechargeable batterie (110-240 VAC, 60 Hz)							
11	**Bag for All Laryngoscopes**	Splash - Protected							
12	**Other Specifications**	FDA, ISO Approved.							
	LARYNGOSCOPE NEONATE								
1	**LARYNGOSCOPE NEONATE**								
2	**SMALL HANDLE**	YES							
3	**BLADES**	NEONATE BLADE SET sizes(1,0,00)							
4	**BLADES TYPE**	straight							
5	**Easy to clean**	yes							
6	**LAMP**	2 EXTRA LAMP							
7	**BATTERY**	RECHARGABLE							
8	**CASE**	INCLUDED							
9	**OTHER SPECS**	SPECIFY							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز الاضاءة الجراحية المحمول					0				
NO	Surgical Headlight				0				
	Standard	Requirements							
Oty-17	Surgical Headlight								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA approval or CE marking							
4	light source type	LED							
5	BRIGHTNESS	> 3500000 LUX							
6	Battery life	8 - 10 Hours							
7	Rechargeable Batteries	Lithium - ion							
8	Charger	Included							
9	Warranty	Minimum of 2 years							
10	Other specification	Please specify other specification							
مواصفات ميكرسكوب جراحي					0				
NO	Surgical Microscope				0				
	Standard	Requirements							
Oty-18	Surgical Microscope								
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
4	Design & quality	Mobile, heavy duty and high quality							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Mounting**	Floor mounted with lockable castor wheels							
6	**Applications:**								
6.1		Dental							
6.2		ENT							
6.3		Gynecology							
6.4		Ophthalmology							
7	**Adapters required**	Required							
8	**Focal length, mm**	Multiple and variable preferred							
9	**Configuration**	Configuration compatible for all Applications							
10	**Diopter adjustment range, mm**	Wide range use for all Applications, Adjustable							
11	**Microscope:**								
11.1	**Eyepiece power**	≥10x; multiple choices preferred							
11.2	**Interpupillary distance, mm**	Adjustable							
11.3	**Magnification:**								
11.3-1	**Automatic/manual adjustment**	Automatic preferred							
11.3-2	**Number of steps**	Zoom; multiple and variable preferred							
11.3-3	**Total range**	Wide range use for all Applications, Adjustable							
11.4	**FOV diameter, mm**	Please specify FOV diameter, mm							
11.5	**Focusing, type**	Manual, power							
11.5-1	**Range, mm**	Facility preference							
11.5-2	**Speed, mm/sec**	Adjustable and Variable preferred							
11.6	**Controls**	Hand and foot preferred							
12	**Custom sterile cover**	Required							
13	**Illumination System:**								
13.1	**Light source**	LED							
13.2	**Field diameter, mm**	Please specify Field diameter							
13.3	**Emergency backup**	Required							
13.4	**Filters:**								
13.4-1	**Color**	yellow filter, cobalt, blue , red free							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
13.4-2	**Heat absorbing**	Preferred							
13.4-3	**UV filter**	Preferred							
13.4-4	**capability to add other filters**	Preferred							
14	**Displat type**	Integrated video and still image capture preferred, adaptors for separate cameras preferred							
15	**Imaging**								
15.1	**Infrared (IR)**	Preferred							
15.2	**Blue, wavelength**	Preferred							
15.3	**Yellow, wavelength**	Preferred							
15.4	**Intraoperative fluorescence**	Preferred							
16	**Floor stand**								
16.1	**Max height, cm (in)**	Facility preference							
16.2	**Arm extension, cm (in)**	Facility preference							
16.3	**Vertical range, cm (in)**	Facility preference							
16.4	**Arm extension drift lock**	Please specify							
16.5	**Base size, cm (in)**	Please specify							
17	**CASTERS**	Four casters							
17.1	**Number locking**	≥2							
18	**Accessories**								
18.1	**Coaxial scopes**	Preferred							
18.2	**Twin scopes option**	Preferred							
18.3	**X/Y-coordinate arm**	Preferred							
18.4	**Spare LED bulbs**	4							
18.5	Fuses	6							
18.6	**Sterilisable caps for microscope handles**	4 sets							
18.7	**Appropriate UPS backup**	1							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
19	**Certification from the manufacturer:**								
19.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
19.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
19.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
19.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
19.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
19.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
19.7		Final operating test by manufacturer							
19.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
19.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
20	**Installation work and operating**	Required							
21	**Maintenance:**								
21.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
21.2		Service manual operation manual {Hardcopy & Softcopy}							
21.3		application software and interface connection Included.							
21.4		spare parts list with code NO							
21.5		Including maintenance and calibration tools.							
22	**Training**								

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
23	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
24	**Other specification**	Please specify other specification							
مواصفات جهاز تدفئة الدم					0				
NO	**Blood Warmer**				0				
	Standard	**Requirements**							
Oty-19	**Blood Warmer**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
4	**Design & quality**	Mobile, heavy duty and high quality							
4	**Temperature Setting**	From 36 c - 43 c							
		Temperature sensors							
5	**Display**	Digital display or better							
6	**Alarms**	audible and visual							
7	**Safety Class**	Please specify safety class to protection the patient							
8	**Warranty**	Minimum of 2 years							
9	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
10	**Other specification**	Please specify other specification							
مواصفات موزع الغاز والشفط					0				
NO	**Central Gas and Suction (Bed head unit)**				0				

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Standard	**Requirements**							
Oty-20	**Central Gas and Suction (Bed head unit)**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
4	**Design & quality**	heavy duty and high quality							
5	**Design**	Heavy duty and high quality New model, able for high load & hard work.							
6	**Type**	Bed head unit							
7	**Mounting**	Ceiling or wall mounting bed head unit							
8	**Pipe material**	Copper Pipes will be Solid drawn, seamless, deoxidised, non-arsenical, half hard tempered and degreased, materials conforming to BS: 6017/1981 Table – 2 (Cu-DHP) manufactured as per BS:2871/1971 Part 1 Table-X and dimension tolerances conforming to BS-EN 1057. Pipe fittings conform to BS-EN 1254-3:1998. Lloyd's certified							
9	**Pipe wall thickness**	Copper pipe OD (in mm) 12,15,22,28 42 Thickness (in mm) 0.9 1.2							
10	**Medical gas outlets**	Medical gas outlets, according to different standards							
11	**Electrical outlets**	Electrical outlets, according to different voltages types							
12	**Communication outlets**	Required							
13	**Nurse call**	Required							
14	**Rail**	Medical Rail							
15	**Light**	Lighting , includes Reading light, Room light, and Night light.							
16	**Installation work**	Required							
17	**Warranty**	Minimum of 2 years							
18	**Other specification**	Please specify other specification							
مواصفات طاولة المستلزمات الجراحية					0				
NO	**Instrument Table (Working Table)**				0				

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Standard	**Requirements**							
Oty-13	**Instrument Table (Working Table)**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
4	**Material of Construction**	Heavy duty Stainless Steel 304 or better.							
5	**Loading Capcity**	Not less than 40-50 Kg							
6	**Castors**	Four casters ,two with brakes							
7	**Dimensions**	Please specify dimensions							
8	**Height adjustment**	Including							
9	**Casters**	Four casters ,two with brakes							
10	**Accessories & options**	Please specify							
11	**Warranty**	Minimum of 2 years							
12	**Other specification**	Please specify other specification							
Oty-2	**Table "MAYO SMALL''**								
1	MAKE	Stainless Steel AISI 304							
2	HEIGHT .	Adjustable with foot operated hydraulic pump from 70-110 cm.							
3	APPROX. TOP DIMENSIONS	60 x 40cm							
4	TOP	Rotable							
5	LOAD CAPACITY	8 Kg							
6	CASTORS	Yes , with 2 lockable .							
7	CASTOR DIAMETER .	More than 50mm .							
8	OTHER SPECIFICATION								
Oty-2	**Table "MAYO LARGE''**								
1	Instrument serving table					Yes			

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
2	The work surface is pullout and therefore easily sterilizable					Specify			
3	Satin stainless steel AISI 304 standard finishing					Yes			
4	Height adjustable by foot pump from 900 - 1300mm					Yes			
5	Shelf swiveable about 360°, (l x w) 700 x 500 mm approx.					Yes			
6	Max. load: about 35kg					Yes			
7	Anti-static castors 3 swivel castors					Yes			
8	Castor diameter 5cm approx.					Yes			
مواصفات عربة (ترولي) الأدوات					0				
NO	Instrument Trolley				0				
	Standard	Requirements							
Oty-15	Instrument Trolley								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
4	**Material of Construction**	Heavy duty Stainless Steel 304 or better.							
5	**Shelves**	Two shelves in the top and bottom , edge around the shelves .							
6	**Dimensions**								
6.1		Depth = 45 Cm Approx.							
6.2		Width = 60 Cm Approx.							
6.3		Height = 75 Cm Approx.							
7	**Handle bar**	Included (on short sides of the trolley).							
8	**Castors**	Four casters ,two with brakes							
9	**Accessories & options**	Please specify							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10	**Warranty**	Minimum of 2 years							
11	**Other specification**	Please specify other specification							
مواصفات كابينة التخزين					0				
NO	**Cabinet Storage**				0				
	Standard	**Requirements**							
Oty-14	**Cabinet Storage**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment and drawing							
3	**Safety standard**	FDA approval or CE marking							
4	**Design**	Heavy duty & compact design							
5	**Construction**	Stainless steel 304							
6	**Type**	Free standing							
7	**Shelves**	Included min. five shelves							
8	**Doors**	Glass doors with stainless steel frame							
9	**Dimensions**	(120 W x 45 D x 180 H) cm approx.							
10	**Top**	2 wide opening hinged doors, set in sealed frames with structured glass embedded in rubber with lock							
11	**Bottom**	2 hinged sheet S.S. doors with lock, 2 adjustable glass shelves							
12	**Warranty**	Minimum of 2 years							
13	**Other specification**	Please specify other specification							
مواصفات					0				
NO	**Doctors Stool**				0				
	Standard	**Requirements**							
Oty-16	**Doctors Stool**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
4	**Base Structure**	Made of epoxy coated steel or equiv, high quality.							
5	**Back Rest**	Included							
6	**Top**	Foam Upholstered in Washable Synthetic Leather Or Equiv.							
7	**Castors**	Four casters ,two with brakes							
8	**Height Adjustment**	Included							
9	**Warranty**	Minimum of 2 years							
10	**Other specification**	Please specify other specification							
مواصفات عربة (ترولي) الأدوات					0				
NO	**Utility Cart**				0				
	Standard	**Requirements**							
Oty-21	**Utility Cart**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
4	**Material of Construction**	Heavy duty Stainless Steel 304 or better.							
5	**Cartcapacity**	300 - 363 kg .							
6	**Shelf**	3-shelf heavy duty							
7	**Castors**	Four casters ,two with brakes							
8	**Handles**	Push handles							
9	**Warranty**	Minimum of 2 years							
10	**Other specification**	Please specify other specification							
مواصفات عارض افلام الأشعة					0				
NO	**X-Ray Viewer Double**				0				
	Standard	**Requirements**							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	X-Ray Viewer Double								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
4	**Type**	Wall mounted X-Ray film viewer							
5	**Construction**	made from acrylic translucent diffusing materials . screen thickness ≥ 3mm approx. automatic gripping mechanism included							
6	**Functionality**	For general radiology applications. Appropriate for viewing a board band rang of film sizes							
7	**Viewing panel size (L x W) , cm**	(35 x 43)							
8	**Light**	LED							
9	**No. of lamps**	Please specify							
10	**On – Off Switch**	Included							
11	**Power supply**	220 V / 50 Hz							

اجهزة قسم جراحة العظام

Orthopedic Operation room Department

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم العمليات							
		Operation room department							
		مواصفات طاولة عمليات جراحة العظام			0				
NO		Orthopedic Operating Table			0				
	Standard	Requirements							
Oty-4		Orthopedic Operating Table							
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA approval or CE marking Product circulation certificate in Europe and the United States of America							
4	Design								
4	Design & quality	Mobail with Four casters two with brakes, heavy duty and high quality new model, able for high load & hard work.							
	Type	Mobail with Four casters with brakes, new model, able for high load & hard work.							
5	Safety	The unit shall be safe to use both for -the operator and the patient.							
6	APPLICATIONS	Fracture, traction, orthopedics, traumatology, neurosurgery							
7	Maximum weight capacity, kg	Static ≥250							
8	Degrees from horizontal								
8.1	Trendelenburg	≥25							
9	Trendelenburg	≥15							
8.2	Reverse Trendelenburg	≥25							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10	Reverse Trendelenburg	≥15							
8.3	Lateral tilt	≥18							
11	Lateral tilt	≥15							
9	Vertical range, cm	65-120							
12	Vertical range, cm	70-100							
10	CONTROLS	Hand or foot							
10.1	Remote control	Preferred							
10.2	Handheld (pendant) controls	Preferred							
10.3	Foot controls	Preferred							
11	ACCESSORIES								
11.1		Ortho extension device, carbon fibre, including the cart.							
11.2		Upper arm extension device.							
11.3		Forearm arm extension device.							
11.4		Tibia and fibula extension assembly.							
11.5		Ortho extension device, hook version, stainless steel, including the cart.							
11.6		Ortho extension w/ cart, Unibase.							
11.7		Triangle support board, 2 pieces.							
11.8		Lateral femoral extension assembly.							
11.9		Orthoscopic leg hoder with clamp							
11.1		Direct traction device							
11.11		Anesthesia screen L type with clamp							
18	Essential requirement:								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Mention the number (with addresses and phone numbers) of installations of quoted units in Yemen							
		• Shall include all required accessories, modules, cables, software, licenses etc for full functionality							
		• Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
		• Service manual operation manual {Hardcopy & Softcopy}.							
12	**Certification from the manufacturer:**								
12.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
12.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
12.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
12.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
12.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
12.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
12.7		Final operating test by manufacturer							
12.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
12.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
13	**Maintenance:**								
		preferred less maintenance needed. 2 years free maintenace.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
13.1		preferred less maintenance needed. 2 years free maintenace, including **PM Kit.**							
13.2		Service manual operation manual spare parts list with code NO.							
		Service manual operation manual {Hardcopy & Softcopy}.							
13.3		Including maintenance tools.							
14	**Power supply**	100 to 240 V ±10%, 50 Hz, (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1.							
15	**Other specification**	Please specify other specification							
مواصفات جهاز دريل					0				
NO	**DRILL**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
1		Included three Handpeices 1-Heavy Duty Drill HandPiece 2-Sagittal sw HandPiec 3- Reciprocating Saw HandPiec				Yes			
2		Applications :Total Knee /Total Hip/ Sports / TraumaPins / Wires Screws / PlatesIM rods / nails,Fracture fixationA.C.L./P.C.L. reconstructionLarge bone surgery / Amputation				Yes			
3	**Battery Operated**	Yes				Yes			
4	**Ingress protection test During Cleaning and sterlization**					Spacify			
5	**Drills Specification**								
6	**Dual Trigger Forward trigger & Reverse trigger**					Yes			
7	**FORWARD & REVERSE & OSSILATING MODE**					Yes			
8	**laser sealed HandPiece**					Yes			
9	**Variable speed**					Yes			
10	**Reaming Mode and Drilling Mode**					Yes			

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11	**Drilling SPEED (ROUND PER MINUTE)**	>1100				>1100			
12	**Reaming Mode**	Yes				Yes			
13	**Cannulated Drill with Cannulation Diameter (mm)**	0.7--3.2 MM				0.7--3.2 MM			
14	**Drill Torque (in-lbs)**	>120 (in-lbs)				>120 (in-lbs)			
15	**Safety Knob**	Yes				Yes			
16	**DRILL WEIGHT**	Specify				Specify			
17	**Sagittal saw hand piece**	YES				YES			
18	**Speed**	>10000 RPM				>10000 RPM			
19	**Rotation the head 360 degree in different position**					Yes			
20	**SAGGITAL SAW WEIGHT**					Specify			
21	**Dimensions 25 x 1.27 x 90mm Qty:10**					Yes			
22	**Dimensions 18 x 1.27 x 90mm Qty:10**					Yes			
23	**Dimensions 13 x 1.27 x 90mm Qty:10**					Yes			
24	**Dimensions 18 x 1.19 x 90mm Qty:10**					Yes			
25	**Reciprocating Hand Piece**					Yes			
26	**13000 RPM**					Yes			
27	**Twist Lock**					Yes			
28	**Reciprocating Blades Qty:10**					Yes			
29	**Double sided blade Qty:10**					Yes			
30	**Long Blade Qty:10**					Yes			
31	**Short Blade Qty:10**					Yes			
32	**Drill Attachments**					Yes			
33	**K-Wire Collet /Pin Collet**					Yes			
34	**Small AO Drill**					Yes			
35	**1/4” Keyed Attachment**					Yes			
36	**5/32” Keyed Attachment**					Yes			
37	**Different Hixagonal Reaming attachments for (J&J S&N, Synthes , Stryker, Zimmer, Biomet, ArthrofIx) Total Knee/Hi**					Yes			
38	**Nailing Reamer attachment**					Yes			

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
39	1/4” Keyless					Yes			
40	DHS Attachment					Yes			
41	Battery & Charger					Yes			
42	Charger have 4 slots for battery charging					Yes			
43	4 battery can charged simutinuasly					Yes			
44	Lithium Ion Assiptec battery kit included (Battery, HOUSE , SHEALD) Qty:3					Yes			
45	Lithium Ion Spare battery Qty: 6					Yes			
46	Orignianal Sterlization container for the for safe storage for the handpeices and the attachments during cleaning and ste					Yes			
47	Sagittal Blade Dimensions 25 x 1.27 x 90mm					Itemized Price			
48	Sagittal Blade Dimensions 18 x 1.27 x 90mm					Itemized Price			
49	Sagittal Blade Dimensions 13 x 1.27 x 90mm					Itemized Price			
50	Sagittal Blade Dimensions 18 x 1.19 x 90mm					Itemized Price			
51	Reciprocating blades Medium					Itemized Price			
52	Reciprocating blades Double sided					Itemized Price			
53	Reciprocating blades Long					Itemized Price			
54	Reciprocating blades Short					Itemized Price			
55	Spare Lithium Ion Aseptic batter only					Itemized Price			
56	Lithium Ion Aseptic battery kit include (Battery , Housing , sheath)					Itemized Price			
مواصفات جهاز تصوير العضام بالاشعة سي ارم					0				
NO	C-ARM				0				
	Standard	Requirements							
1	Manufacturer	Please specify manufacturer and country of origin.							
2	Model number	Please specify model number.							
3	Safety standard	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
	Radiography mobile c-arm								
4	Design & quality	Mobile , Heavy duty designed, new Model & high quality							
5	X-RAY TUBE ANODE	Rotating							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
6	**Maximum output, kW**	≥ 10KW							
6	**Maximum output, kW**	3 - 5 KW							
7	**Heat capacity,**	200KHU or more							
8	**Focal spot size,**	0.6mm							
9	**KV range**	40-110							
10	**mA range**	≤75							
11	**AEC**	Preferred							
12	**Exposure time, sec**	0.001-5							
13	**Pulsed fluoroscopy**	Required							
14	**ABS control**	Required							
15	**Snapshot mode**	Preferred							
16	**IMAGE DETECTOR**	flat-panel detector							
17	**Camera resolution**	1k x 1k							
18	**TV MONITOR size,**	(17") dual							
19	**CASSETTE HOLDER SIZES**	24 x 30 , 35 x 35 cm.							
20	**Image storage type**	digital imaging system (200,000 image storage)Min.							
21	**Image matrix size**	1028 x 1028,10 bits							
22	**Frame integration**	Preferred							
23	**Certification from the manufacturer:**								
23.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
23.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
23.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
23.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
23.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
23.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
23.7		Final operating test by manufacturer							
23.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
23.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
24	**Maintenance:**								
24.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
24.2		Service manual operation manual {Hardcopy & Softcopy}							
24.3		application software and interface connection Included.							
24.4		spare parts list with code NO							
24.5		Including maintenance and calibration tools.							
25	**Power supplay**	100 to 240 V ~ ±10%, 50/60 Hz Single phase							
25	**Power supplay**	100 to 240 V ~ ±10%, 50/60 Hz Single phase (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
26	**Other specification**	Please specify other specification							
	3D c-arm								
1	**GENERAL STANDARD**								
2	**FDA 510 (K) Clearance + CE Mark & SFDA Registration**					Yes			
3	**C-ARM MOBILE STAND**								
4	**Motorized Vertical Travel**	Up to (40) cm				Up to (40) cm			
5	**Vertical Travel with Emergency Stop Function**					Yes			
6	**Horizontal Travel**	Up to (20) cm				Up to (20) cm			
7	**Maximum Angulation**	± (190°) Approx.				± (190°) Approx.			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
8	Maximum Swivel Range	± (10°)				± (10°)			
9	Orbital Rotation	≥ (145°) - Total Rotation			≥ (145°) - Total Rotation				
10	C-arm Overscan	(95°)				(95°)			
11	Immersion Depth	≥ (68) cm				≥ (68) cm			
12	Clearance - (Tube-Detector Assembly Distance)	≥ (80) cm				≥ (80) cm			
13	Source-Detector Assembly Distance	Up to (98) cm				Up to (98) cm			
14	Mobile Stand Brakes	to be determined if Electromagnetic, Electromechanical or Mechanical			e determined if Electromagnetic, Electromechanical or Mechanical				
15	Wireless or Wired Dual Footswitch for Radiation Release in All Operation Modes					Yes			
16	Selectable Operating Mode Assignment of Footswitch					Yes			
17	Hand Switch for Radiation Release					Yes			
18	Hand Switch with Image Storage Function					Yes			
19	Laser Aimer on Detector Assembly Side					Yes			
20	Isocentric Design					Yes			
21	MONITOR CART								
22	Easy-to-Clean Membrane Keyboard or Touch Screen at The Monitor Cart with Function Keys					Yes			
23	Central Foot Brake					Yes			
24	Radiation Warning Lights					Yes			
25	TFT color displays on mobile cart					Yes			
26	Screen Size	≥ (18") / (46) cm			≥ (18") / (46) cm				
27	Resolution Matrix	Not Less Than (1280 x 1024)			Not Less Than (1280 x 1024)				
28	X-RAY TUBE								
29	Focal Spot Nominal Value for Fluoroscopy	Single Nom. (0.6) or Dual (0.3,0.5)			Single Nom. (0.6) or Dual (0.3,0.5)				
30	Focal Spot Nominal Value for Digital Radiography	Single Nom. (0.6) or Dual (0.3,0.5)			Single Nom. (0.6) or Dual (0.3,0.5)				

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
31	Continuous Fluoroscopic Output with Fluoro Times > (50) min.	Yes, @ (0.15) Kw			Yes, @ (0.15) Kw				
32	Overheat Protection Through Special Tube Design					Yes			
33	X-RAY GENERATOR								
34	Single-Tank High-Frequency Generator					Yes			
35	Maximum Pulsed Output	≥ (15) kW				≥ (15) kW			
36	Pulsed Fluoroscopy	Approx. (1 - 20) pulse/s			Approx. (1 - 20) pulse/s				
37	Fluoroscopic Output	(40 – 110) at (8) pulses/s			(40 – 110) at (8) pulses/s				
38	Maximum Fluoroscopic Output	Up to (20) mA at (8) pulses/s			Up to (20) mA at (8) pulses/s				
39	OPERATING MODES								
40	Digital radiography,kV	(40 - 110) kV				(40 - 110) kV			
41	Digital radiography, mA	≥ (20) mA				≥ (20) mA			
42	Fluoroscopy, kV	(40 - 110) kV				(40 - 110) kV			
43	Fluoroscopy, mA	≥ (15) mA				≥ (15) mA			
44	Application/Organ-Specific User Programs					Yes			
45	Min. Number of User Programs	Not Less Than (50)			Not Less Than (50)				
46	Automatic Dose Rate Control					Yes			
47	Function for Maximum Dose Reduction > (50)%					Yes			
48	Function for Preventing Overexposure					Yes			
49	COLLIMATOR SYSTEM								
50	Iris or Rectangular diaphragm					Yes			
51	Radiation-free positioning of iris diaphragm					Yes			
52	Iris diaphragm is remote-controlled					Yes			
53	Semi-transparent slot diaphragm					Yes			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
54	**DETECTOR ASSEMBLY**								
55	**Image Matrix**	Approx. (1024x1024) Pixels				Approx. (1024x1024) Pixels			
56	**Flat Panel Detector**	Aprrox. (27x27) cm				Aprrox. (27x27) cm			
57	**CMOS material**	Yes				Yes			
58	**Acquisition Bit Depth**	Not Less Than (12) Bit				Not Less Than (12) Bit			
59		Noise Reduction with Motion Detector				Yes			
60		Electronic Image Rotation (live image rotation)				Yes			
61		Digital Dose measuring chamber for radiography and fluoroscop) with all supplies during warranty period				Yes			
62		IMAGE PROCESSING, DISPLAY, AND SCREEN							
63		Split screen in 1,4,9,16 or 1x1,2x2,4x2				Yes			
64		Automatic windowing				Yes			
65		Manual contrast and brightness control				Yes			
66		Edge enhancement				Yes			
67		Last Image Hold (LIH)				Yes			
68		Configurable display of image text				Yes			
69		Simultaneous display of current and older patient images on the reference monitor				Yes			
70		Simultaneous display of several series				Yes			
71		Display of a series as single images in split screen mode				Yes			
72		Paging forward/backward through reference images				Yes			
73		MEASUREMENT FUNCTION							
74		Measurement of angles				Yes			
75		Measurement of distances with calibration function				Yes			
76	**Movie function**					Yes			
77	**3D IMAGE RECONSTRUCTION**								
78		Completely integrated 3D functionality with identical user interface for 2D and 3D mode				Yes			
79		Automatic motor-driven movement for creating the 3D data record				Yes			
80	**Maximum angular range**	> (180°)				> (180°)			

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
81		The isocenter remains stationary during the 3D acquisition.				Yes			
82		The 3D reconstruction data record is displayed during the projection acquisitions in realtime.				Yes			
83		The reconstruction data record is created from 2D exposures with a (1024 x 1024) image matrix.				Yes			
84		The 3D data record is isotropic (geometric accuracy in all directions)				Yes			
85		The 3D data record can be used for navigation.				Yes			
86		The data record contains at least (256) slices				Yes			
87		Simultaneous 2D and 3D visualization				Yes			
88		The 3D data record can be exported as DICOM volume data record (to CD or in the network)				Yes			
89		Interactive 3D visualization MPR (Multi Planar Reconstruction) in various slice thicknesses in real time				Yes			
90		Interactive 3D visualization SSD (Surface Shaded Display) in real time				Yes			
91	**NETWORKING & SECURITY**								
92	**DICOM Compatible**	Yes				Yes			
93	**DICOM Store and DICOM structured dose report**					Yes			
94	**Image auto transfer**					Yes			
95	**Query, retrieve, Send, Receive**					Yes			
96	**Modality worklist**					Yes			
97	**Storage commitment**					Yes			
98	**DICOM print**					Yes			
99	**Patient edit**					Yes			
100	**DICOM MPPS**					Yes			
101	**DICOM viewer on CD "Burn exam on CD with DICOM viewer"**					Yes			
102	**HIPAA Patient Data Security**					Yes			
103	**DATA PROTECTION AGAINST DELETION & export "Different privilege levels "**					Yes			
104	**Security Package**					Yes			
105	**Virus Protection**					Yes			
106	**The ability to interact with the processing workstation from remote PC to view and process studies**					Yes			
107	**Wireless Communication**					Yes			
108	**NAVIGATION LINTERFACE**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
109		Integrated 2D interface for connecting navigation systems				Yes			
110		Digital image transfer to the navigation system				Yes			
111		Automatic transfer of DICOM information to the navigation system				Yes			
112		Integrated 3D interface for connecting navigation systems with all supplies during warranty.				Yes			
113		Automatic transfer of the 3D image reconstruction data from the C-arm to the navigation system				Yes			
114		Add-on specifications on top of base specs							
115		Touchscreen on mobile stand is rotatable, enabling operation from two sides							
116		Support of generator power with power capacitor							
117		System heat capacity in HU: minimum 10 million HU							
118		A dedicated liquid cooling and heat management system for demanding applications is recommended							
119		Live preview of the fluoroscopic image on touchscreen							
120		DAP							
121		Sterile cover for Flat Panel Detector							
122		Please specify Add-on specifications on top of base specs							
مواصفات جهاز رسم خارطة موقع					0				
NO	Orthopedic NAVIGATION SYSTEM				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
4	**Technical specification**								

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
1		Orthopedic NAVIGATION SYSTEM in both optical and EM tracking capabilities to track the surgical instruments location through Orthopedic surgeries procedures. a combination of hardware, software, tracking , image data merging, and specialized							
2		instruments to guide surgical procedures. locating anatomical structures in open and noninvasive procedures. indicating any condition in which the use of surgery may be appropriate, reference to a rigid anatomical structure, relative to a CT or							
3		MR based model, fluoroscopy images, or digitized landmarks of the anatomy.							
4	**Orthopedic procedures including:**								
5		**Joint Replacement (Knee and Hip)**							
6		**Denesty measurement of damaged cartilage.**							
7		**Anatomical surface reconstruction.**							
8		**Bone algniment**							
9		**Truma and Exetermties Surgeries**							
10		**Foot and ankle surgeries**							
11		**Joint preservation.**							
12		**General orthopedics surgeries.**							
13		**Biosurgeries**							
14		**Others Specify .**							
15	**General Features :**	**General Features :**							
16		The system should be intergrated in an ultra mobile cart with a seperated mobile camera stand for flexible positioning of the infrared camera.							
17		All wheels can be swiveled, locked and semi locked for a straight motion.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
18		The Optical tracking camera should be self balanced and is easely adjustable.							
19		The Optical tracking camera should be equipped with a laser pointer for quick positioning and aiming of the frames.							
20		The system have DICOM data transfer to navigation station through Network, DVD or MOD.							
21		The system should have an integrated DVD/RW drive for direct data import and data archiving.							
22		The system should have an integrated VGA ports (BNC, S-video) providing additional monitor signal output and input.							
23		The system should have a built in Fast Central Processor Unit with uninterrupted power supply, keyboard, mouse.							
24		The system must have the ability to be used and/or upgraded for Cranial, ENT, Knee, Hip and Spine applications (using Fluoro, CT and both).							
25		The system must have the ability to be upgraded to electromagnetic tracking.							
26		The system should be able to track either wired or wireless instruments.							
27		The system should have no restrictions with using already existing hospital instruments. (e.g. driller, bipolar, endoscope, ultrasound probe etc) should be "quickly and easily" integrated.							
28		The system should be able to re-calibrate intra-operatively the instruments.							
29		The system should be able to track Microscopes whether equipped with image injection or not.							
30	**System HARDWARE Features Specify**								
31		HI end high speed computer with comparable solution with a standard Windows environment and networking capabilities is available. Specify Details							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
32		A separate high performance computer for data transfer and surgical planning is available outside the OR to eliminate any data transfer failure .Specify Details							
33		**DVD / RW Drive**							
34		UPS emergency power supply .Specify Details							
35		A touchscreen monitor for intra-operative use is provided .Specify Details							
36		UHD Visualization monito, Specify Details							
37		UHD Surgion monitor ,Specify Details							
38		The monitors is integrated into the navigation system.Specify Details							
39		The neurosurgeon can operate the navigation system intra-operatively from the sterile field.							
40		The navigation station has a mobile design allowing flexible movement in the OR. It can be partially stored under the OR table for flexible positioning.							
41		The system has a passive 3D tracking system, enabling 3D localization of standard and existing surgical tools equipped with passive markers .Specify Details							
42		Navigation software can be operated without keyboard and mouse.							
43		IR Camera ,Specify Details							
44		**DATA TRANSFER, Specify Details :**							
45		Appropriate disk drives or networking facilities can be offered in order to transfer image data.							
46		Direct link to CT scanner via hospital network can be installed for display of CT data .							
47		Direct link to MRI scanner via Ethernet cable will be required for display of MRI data.							
48		The system is DICOMN ready with a query-retrieve functionality.							
49		The risk of data-transfer failure in the operating rooms is eliminated Specify.							
50		**NAGIVATION SOFTWARE**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
51		The main steps indicated via graphic guidance.							
52		provides a 3D display of outlined objects and navigated instruments, allowing a better orientation for the surgeon and a faster reconstruction of the images.							
53		The display setup allows flexible user configuration.							
54		visualize any instrument in all reconstructions and displays.							
55		Real-time voxel based 3D navigation and manipulation of any given diagnostic data.							
56		Possibility to create new image sets.							
57		Digital point acquisition and labeling.							
58		**PATIENT REGISTRATION**							
59		The system provides separated CT and MRI compatible markers .							
60		Marker based patient registration without a footswitch.							
61		The registration process is done with a point registration .							
62		Possibility to do an intra-operative re-registration with anatomical landmarks.							
63		The system offers the option of a markerless registration.							
64		The surface registration process does not require any pre-registration of anatomical points.							
65		Touchless surface registration devices are available.							
66		A high speed touch based registration method is available for patient registration.							
67		The dynamic referencing device does not infringe the field of work of the surgeon.							
68		The reference device is easily removable and can be replaced during the operating procedure. An additional reference clamp is also available which can be attached to any head-holders.							
69		Description of patient registration with the dynamic reference device before and after sterile conditions is achieved.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
70	**INSTRUMENT AND FRAMELESS BIOPSY.**								
71		The accuracy of the pointer device can be checked after every procedure.							
72		The offered standard probe is cordless with NO battery operation on the probe.							
73		There is no restriction with using already existing instruments.							
74		The calibration procedure of a new instruments does not take longer than 5 SEC.							
75		Instruments can be re-calibrated intra-operatively in case of accuracy loss.							
76		At least Five instruments can be visualized at the same time.							
77		Instruments can be “virtually” extended. This offset is also displayed in different color							
78		No electrical connections/devices or cables that can cause signal disturbance or sterilization problems are attached to the instruments or tools for navigation.							
79		All non-disposable instruments can be autoclaved .							
80		A hardware and software combination enables precise instrument alignment of any instrument .							
81		Integrate wireless pre- calibrated disposable instruments.							
82	**MICROSCOPE INTEGRATION**								
83		The navigation system can interface microscopesfrom different manufacturers.							
84		The navigation system can provide a reconstructed view from the diagnostic data with the same orientation as the view through the microscope.							
85		The microscope depth view can also be displayed and navigated in 3D.							
86		The microscope-tracking array is cable-less .							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
87		With the microscope's head-up display or image injection module, the surgeon not only gets geometrical but also navigational information.							
88		Additional digitized points and their labeling can be displayed in the microscope head-up display.							
89		Focus adjustment can be done with the navigation system.							
90		Outlined objects and digitized points can be displayed with the video image on the navigation screen .							
91		**Remote Navigation Control:**							
92		Some functions of the navigation system can be controlled directly from the microscope handles.							
93		**Smart Auto-Tracking:**							
94		Using microscope robotics focus is auto/continuously adjusted to the tip of the instrument used.							
95	**OR DOCUMENTATION**								
96		Storage of screen setup includes; Video image for documentations of different steps of the procedure .							
97		Screenshots done intra-operatively recalled immediately for viewing.							
98		Orthopedic software features shall be specified.							
99	**Compliance with standards & legislation:**								
100		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
101		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
102		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
103		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
104		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcomes and output of the equipment must be included.							
مواصفات					0				
NO					0				
	Standard	**Requirements**							
NO.									
14	**3**	**Basic Set, Tissue, Orthopedic**	Set	2	#######	5,940.00			
		Scalpel handle no. 3 12cm/4¾”				-			
		Scalpel handle no. 4				-			
		Scalpel handle no. 4 L				-			
		Scissors, bl/sh str 14,5cm TC				-			
		Scissors, bl/sh cvd 14,5cm TC				-			
		MAYO scissors curved 17,0 cmTC				-			
		METZENBAUM scissors 18 cm TC				-			
		Universal wire scissors TC				-			
		Forceps tissue 1x2 t. 14,5 cm (2 Ea)				-			
		Forceps tissue 1x2 t. 20,0 cm (2 Ea)				-			
		POTTS SMITH Forceps, 1x2 teeth, 21cm (2 Ea)				-			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		FEILCHENFELD Splinter forceps, 11,5cm				-			
		DEBAKEY Atrau fcps. 2.0/2.5 16cm/6¼" str (2 Ea)				-			
		DEBAKEY Atrau fcps. 2.0/2.5 20cm/8" str.				-			
		DEBAKEY Atrau fcps. 3.5/4.5 20cm/8" str				-			
		HALSTED mosquito forceps (3 Ea)				-			
		HALSTED mosquito forceps (3 Ea)				-			
		ROCH. OCHSNER hemostat.forceps (2 Ea)				-			
		OVERHOLT GEISSENDOERFER fig. 2				-			
		MIKULICZ peritoneum forceps 20cm/8"strongly curved				-			
		BAINBRIDGE forceps Atrauma (4 Ea)				-			
		BAINBRIDGE forceps Atrauma (4 Ea)				-			
		BACKHAUS towel forceps 11cm/4½" (12 Ea)				-			
		KOERTE retractor sharp 40x30mm (2 Ea)				-			
		GROSS MAIER dress.fcps.w.ratch (2 Ea)				-			
		FARABEUF retractor double pair				-			
		ROUX retractor double fig. 1 (2 Ea)				-			
		RIBBON retractor 40x330 mm				-			
		Retractor (trach.) sharp 1 pr. 16,5cm small curve				-			
		Retractor (trach.) sharp 2 pr. 16,5cm small curve (2 Ea)				-			
		Retractor (trach.) blunt 1 pr. 16,5cm small curve (2 Ea)				-			
		Retractor (trach.) blunt 2 pr. 16,5cm small curve (2 Ea)				-			
		DESMARRES retractor (eyelid) 16 cm, 12mm (2 Ea)				-			
		VOLKMANN retrac. 21,5 cm sharp (2 Ea)				-			
		VOLKMANN retrac. 21,5 cm sharp (2 Ea)				-			
		VOLKMANN retrac. 21,5 cm sharp (2 Ea)				-			
		VOLKMANN retrac. 21,5 cm sharp (2 Ea)				-			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		LANGENBECK retr. 21cm 35x 7 mm (2 Ea)				-			
		KOCHER retractor 21 cm 40x12mm (2 Ea)				-			
		KOCHER retractor 21 cm 55x11mm (2 Ea)				-			
		ISRAEL retractor 45 x 50 mm, 25 cm, (2 Ea)				-			
		SAUERBRUCH retractor 75x20 mm (2 Ea)				-			
		DESCHAMPS needle blunt right				-			
		DESCHAMPS needle blunt left				-			
		DESCHAMPS ligature needle blt. (2 Ea)				-			
		Probe buttoned with eye Ø 2 mm, 16.0 cm				-			
		Probe buttoned Ø 2 mm, 18.0 cm				-			
		DOYEN grooved director				-			
		LANGENBECK Raspatories, 19,5cm, with flat hollow handle				-			
		Periostal Elevators 6mm, 17cm with hollow handle				-			
		CRILE WOOD needleholder 15cmTC				-			
		MAYO HEGAR needleholder TC (2 Ea)				-			
		RYDER needleholder TC				-			
		SCHMIEDEN PAYR ligat.conductor				-			
		KOENIG ligature conductor 19,5cm, 7mm				-			
		MAYO safety needle 14cm/5½, with ball (2 Ea)				-			
		VOLKMANN bone curette fig.00				-			
		VOLKMANN bone curette fig.0				-			
		VOLKMANN bone curette fig.1				-			
		VOLKMANN bone curette fig.2				-			
		VOLKMANN bone curette fig.3				-			
		VOLKMANN bone curette fig.4				-			
		VOLKMANN bone curette fig.5				-			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		VOLKMANN bone cur. fig. 6				-			
		HALLE curette malleable fig. 3				-			
		LANGENBECK elevator, 20cm, 8mm				-			
		HOHMANN bone lever 24 mm				-			
		HOHMANN mini bone lever 8 mm 16cm				-			
		flat nose pliers 14 cm				-			
		Interior box for 88.112.65 62x15mm				-			
		Needle case w.partition perf. 150x95x13mm				-			
						-			
	4	**Orthopedic Set Consisting of:**		**2**	#######	3,180.00			
		Forceps tissue 1x2 t. 14,5 cm (2 Ea)				-			
		ADSON forceps serrated				-			
		SENN retractor double sharp (2 Ea)				-			
		SENN retractor double blunt				-			
		ALM retractor sharp 7 cm				-			
		WEITLANER retract.sharp 11,5cm (2 Ea)				-			
		WEITLANER retract.blunt 11,5cm				-			
		Probe buttoned with eye Ø 2 mm, 14.5 cm				-			
		Grooved director 14,5cm				-			
		HALSEY needleholder smooth (2 Ea)				-			
		RUSKIN rongeur 18 cm curved				-			
		LISTON bone cutting forceps				-			
		MARTIN cartil.hold.forceps19cm				-			
		LOWMAN bone hold.clamp 18,5 cm				-			
		VOLKMANN bone curette fig.0000				-			
		VOLKMANN bone curette fig.000				-			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		VOLKMANN bone curette fig.3				-			
		Osteotome 13,5 cm 12 mm				-			
		Bone chisel 13,5 cm 12 mm				-			
		Gouge 13,5 cm 12 mm				-			
		KIRK hammer 19cm/750g = 24 oz				-			
		LANGENBECK Raspatories, 19,5cm, with flat hollow handle				-			
		Bone rasp 24,5 cm				-			
		CHARRIERE amputation saw 30cm length of blade 210mm				-			
		STILLE Hand drills 20,5cm, complete with 9 twist drills ref. 33.212.25/30/35 33.214.05/08/10/12/16				-			
		FERGUSSON aspirating tube WL110mm Ø2,5mm				-			
		FERGUSSON aspirating tube WL110mm, Ø 3mm				-			
						-			
15	5	**Instrument Set Dynamic Hip Screws DHS/DCS Consisting of:**		2	#######	9,400.00			
		drill guide 135/140/145/150deg				-			
		guide pin DHS 2,5/230mm w.thr.				-			
		direct measuring dev. for DHS				-			
		wrench for DHS screws				-			
		T-handle w.quick coupl. f. DHS				-			
		impactor for DHS screws				-			
		centering sleeve f. 34.338.17				-			
		centering sleeve f. 34.338.06				-			
		coupling screw for DHS screws				-			
		guide shaft for 34.338.20 DHS				-			
		coupling screw long DHS				-			
		reamer triple complt. long DHS				-			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		box aluminum perforated				-			
		tray (lower) f. small instrum.				-			
		tray (upper) f. large instrum.				-			
		tap for DHS screws 240 mm long				-			
						-			
	6	**Dynamic Hip Screw (DHS) Std. Implant Set Consisting of :**	Set	**2**	#######	7,700.00			
		Hip Screw 65mm				-			
		Hip Screw 70mm				-			
		Hip Screw 75mm				-			
		Hip Screw 80mm				-			
		Hip Screw 85mm				-			
		Hip Screw 90mm				-			
		Hip Screw 95mm				-			
		Hip Screw 100mm				-			
		Hip Screw 105mm				-			
		Hip Screw 110mm				-			
		Hip Screw 115mm				-			
		DHS Compression Screw				-			
		Dynamic Hip Screw Plate 135°/4 (3 Ea)				-			
		Dynamic Hip Screw Plate 135°/5 (2 Ea)				-			
		Dynamic Hip Screw Plate 135°/6 (2 Ea)				-			
		Dynamic Hip Screw Plate 150°/4				-			
		Dynamic Hip Screw Plate 150°/5				-			
		Dynamic Hip Screw Plate 150°/6				-			
		Wire basket SS 540x253x70mm holes d=5.5/T8 and holes d=3.5/T5				-			
						26,220.00			

الجمهورية اليمنية

اجهزة قسم عمليات جراحة المخ والأعصاب

NEUROSURGICAL OPERATION Department

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
اجهزة قسم العمليات									
Operation room department									
اجهزة قسم جراحة المخ والأعصاب (تخصصي)									
Department									
مواصفات طاولة عمليات جراحة المخ والأعصاب					0				
NO	NEUROSURGICAL OPERATION TABLE				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
		High End Operating electro hydraulic OT Table with sliding top and neuro attachment.							
		Electro hydraulic OP.should have adjustments controlled from out side the intervention area via corded hand control or optionally vai infrared remote control.							
		Should be capable of working on main power supply **as well as back up.**							
		The table should be provided with an over-ride control panel totally independent of the electronic system ,for adjustments of height up/down,Trendelenburg lreverse trendelenburg ,lateral tilts,back rest up/down, leg plates up/down , during emergencies.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		It should be provided with two splash -protected socket connections for the simultaneous connection of the corded hand control device and foot switch.							
		The table should necessarily be provided with special core ,mattress,electrically discharging,which evenly distributes the patients weight and prevents pressure points developing during long duration surgeries.							
		The core part of the sandwich structure cushion should be covered by lying protection with visco-elastic and two-way stretch,covering for excellent pressure distribution and reduction in shearing forces.							
		The mattress should be covered by electrically sealed joints so as to prevent ingress of liquids.							
		The table topshould be C-Arm compatible and X-Ray translucent from head end to coccy x region,without having to move the patient inter-operative,and be provided with guide rails under the table top for insertion of X-Ray cassette trays.							
		The table should be provided with a strong ,solid base with least obstruction to the feet of the surgeons operating as well as during use of the C-Arm,microscopes etc.It should be provided with four double swivel castors for easy maneuvering of the OT.							
		The base colum head should be made up of reinforced material which is resistant to impact ,breakage and disinfectants.							
		The maximum permissible patient weight should be around 200Kgs.							
		The table top should be divided into 5 sections consisting of head rest,back extension plate,back plate,seat plate and leg plate.							
		It should necessarily be possible to shorten the table top in stages by back extension to 1300mm ,and a further 250mm when the leg plate is lowered,for operating on infants to adolescents.							
		Patient orientation should be possible on both sides of the table top,which can be locked into memory,in order to prevent any mishaps during surgery.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		The following adjustments must be electro-hydraulicallly operated via corded hand control or infrared remote control :							
		Height up/down (without padding) : 450 - 1000mm							
		Trendelenburg /reverse trendelenburg : 45/20 deg.							
		Lateral tilt (left/right) : 30deg							
		Back section (up/down) : 90/30 deg.							
		Leg section (up/down) : 90/90deg.							
		O' position (cancellation of trendelenburg)/revers trendelenburg/lateral							
		Tilts/back section/leg section							
		Base locking of the table via retractable castors							
		Patient orientation on both sides of the table top.							
		The following adjustments are manually operated:							
		Adjustment and removal of head rest							
		Removal of leg plate and back rest extensions.							
		The following accessories should be supplied along with the table :							
		*Arm board with pad and clamp - 2 Nos.							
		*Anesthesia screen - 1 No.							
		*Radia setting clamp - 1 No.							
		*Body starp - 1 No.							
		Neuro Surgery Accessories:							
		*Connecting bracker -1 No.							
		*Basic unit - 1 No.							
		*Clamp adaptor - 1 No.							
		*Mayfield skull clamp - 1 No.							
		*Pin for adults - 4 Nos.							
		*Pin for children - 4 Nos.							
		*Horse shoe shaped head rest , 2 pc and adjustable - 1 No.							
		*Connecting fixture - 1 No.							
		*Guide roller for head side traction - 1 No.							
		*Special pad for spinal surgery - 10 pc and adjustable - 1 No.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		*Prone positioning gel gead rest - 1 No.							
	Certification from the manufacturer:								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn’t response when needed.							
	Maintenance:								
		Service manual operation manual {Hardcopy & Softcopy}							
		spare parts list with code NO							
	Power supplay	100 to 240 V ~ ±10%, 50/60 Hz Single phase							
	Other specification	Please specify.							
مواصفات جهاز دريل جمجمة المخ					0				
NO	**HIGH SPEED PNEUMATIC CRANIOTOMY DRILL**				0				

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The drill system should be able to saw, cut, dissect, curette, abrade, carve and shape the skull bones and the vertebral bodies, bio-metal, bio-plastics, methacrylate, ceramics and the like.A wide range of attachments and dissecting tips both for routine and microsurgical work required.							
4	**Max RPM:**	More than 70000							
		Operating pressure between 100 to 200 psi							
5	**Pressure:**	To run on compressed air							
6	**Controls:**	Foot controls for variable speed.							
7	**Hand Pieces:**								
		Water proof, Light stable hand pieces, both short and long							
		Straight and angled/ convertible hand-pieces for micro neurosurgery work under operating microscope.							
		Fast and safe tool less changing system for attachments and dissecting tips.							
8	**Attachments:**								
		A wide range of attachments/ dissecting tips for routine/ microsurgery required.							
		Paediatric attachments/ tip and guides required separately.							
		Attachment for cranial perforation/ burr hole/ laminotomy.							
9	**Sound level:**	Low sound level, not above 85db close to the operating field.							
10	**Sterilization:**	Autoclaveable							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11	**Accessories - Essential:**	Should be from the same manufacturer							
		The drill system should consist of following:							
		Cable/hose with hand piece – Convertible 1 No.							
		Motor Hose 1 No							
		Foot control assembly: 1 no							
		Attachment for cranial surgery							
		Long, Medium & short(straight & angled) one each(total six)							
		Universal drill- perforator chuck : 1 no							
		Duraguard (rotating foot) : adult & Paediatric 2 nos. each							
		Attachments for spinal surgery							
		Long attachments for Transoral surgery: 2 nos.							
		Laminotmy : 02							
		Sterlizing case 01							
		Cleaning brush of different sizes one each							
12	**CONSUMABLES:**								
		Dissecting Tools							
		*Fast cutting burrs (3mm): 10							
		*Diamond burrs (3mm): 10							
		*Bone Cutter Drill bits for craniotomy: 10							
		Lubricating oil/diffuser - 20 nos.							
		Lubricating oil spray - 20 nos.							
	Certification from the manufacturer:								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
	Maintenance:								
		2 years free maintenace.							
		Service manual operation manual {Hardcopy & Softcopy}							
		spare parts list with code NO							
	Other specification	Please specify.							
مواصفات جهاز الجراحة الكهربائي (الكوتري)					0				
NO	**Electro Surgical Unit NEURO**				0				
	Standard	**Requirements**							
	Electro Surgical Unit NEURO								
1	**Special Neuro Bipolar Irrigated ESU**					Yes			
2	**High power bipolar cutting Upto 300 watts 1 MHZ Frequency**					Yes			
3	**Micro bipolar cutting Upto 17 watts**					Yes			
4	**Bipolar coagulation Upto 50 watts**					Yes			
5	**Display Separate LED display**					Yes			

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
6	Power Contraol Independent cut/coagulation					Yes			
7	Voltage 220v 60 HZ					Yes			
8	Forceps Technology Regular & Active heat transfer technology, non sticky technology					Yes			
9	Bipolar Generator					Yes			
10	irrgation modul Separate Unit					Yes			
11	irrgation connecting cable					Yes			
12	Irrigation I.V.Pole					Yes			
13	Floorstand Trolly					Yes			
14	Bipolar Cord to be used with Active Heat Transfer Technology Disposable with Tubing Qyt 120					Yes			
15	Footpeadal					Yes			
16	18cm LONG DISPOSAPLE 0.5mm BAYONET TIP IRRIGATED FORCEPS QYT 10					Yes			
17	18cm LONG DISPOSAPLE 1.0mm BAYONET TIP IRRIGATED FORCEPS QYT 10					Yes			
18	18cm LONG DISPOSAPLE 1.5mm BAYONET TIP IRRIGATED FORCEPS QYT 10					Yes			
19	20cm LONG DISPOSAPLE 0.5mm BAYONET TIP IRRIGATED FORCEPS QYT 20					Yes			
20	20cm LONG DISPOSAPLE 1.0mm BAYONET TIP IRRIGATED FORCEPS QYT 20					Yes			
21	20cm LONG DISPOSAPLE 1.5mm BAYONET TIP IRRIGATED FORCEPS QYT 20					Yes			
22	23cm LONG DISPOSAPLE 0.5mm BAYONET TIP IRRIGATED FORCEPS QYT 20					Yes			
23	23cm LONG DISPOSAPLE 1.0mm BAYONET TIP IRRIGATED FORCEPS QYT 10					Yes			
24	23cm LONG DISPOSAPLE 1.5mm BAYONET TIP IRRIGATED FORCEPS QYT 10					Yes			
NEURO مواصفات جهاز ميكروسكوب العمليات					0				
NO	Microsurgical microscope				0				
	Standard	Requirements							
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
4	Design & quality	Mobile, heavy duty and high quality							
5	Working distance:-	200-620 mm or better, continuously variable through motorized multifocal lens, activated through Handgrips and through control panel. Manually adjustable override							
6	Magnification range:-	Minimum range upto 20x or better							
7	Focusing:-	Motorized via multifocal lens activated through Hand or foot switch & Touch screen control panel. Manually adjustable override. The system must provide automatic focusing.							
8	Eyepiece:-	12.5x widefield with dioptric setting +5D to – 5D.							
9	Light Source:-	300W Xenon illumination with integrated 300W Xenon back-up with fast action lamp change over. The Microscopes illumination system must provide an additional light beam path to brighten up shadowed areas in the field of view.							
10	Illumination Field Diameter:-	Should have built in automatic zoom- synchronized illumination field diameter, with manual override and reset feature							
11	Automated Illumination control:-	Should have automatic Illumination. Brightness control should be linked to working distance. Illumination also can be controlled by hand switch or foot switch.							
12	Binocular Tube:-	- Binocular tube for main surgeon which can be pushed and pulled offering flexible positioning, added magnification and integrated rotate functionality. Easily compensate for eye level differences between the surgeon and the assistant when operating in a face to face configuration by simply rotating the tube.							
13	Balancing:-	The system must provide a one touch automatic balancing of all system axes without any manual Interaction or axis adjustments.							
14	Beam Splitter:-	Integrated Beam Splitter (Not Visible from outside/ separate attachment).							
15	Camera:-	Fully Integrated 3 CMOS HD Video Camera so that maximum resolution will display & record.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
16	Display:-	Full HD Medical grade touchscreen display system attached with the microscope system(No External monitor/ detachable monitor will be acceptable).							
17	Recording:-	Full HD inbuilt video recording system with integrated HDD of at least 10 TB.							
18	Stereo Co- observer:-	Should have stereo co observation attachment for side assistant and the attachment should not move in case the head is tilted in forward or backward direction by the main surgeon.							
18.1		The microscope must offer integrated 360° rotatable tube for better ergonomic observation.							
18.2		Binocular should have PD adjustment knob with range of 55 mm to 75 mm.							
18.3		Binocular should have movement lock in any angle.							
19	XY Movement:-	For precise positioning of the microscope, the system must offer a motorized XY movement, providing in any(even horizontal) position of the optical axis a correct XY movement.							
20	Remote Access:-	The system must provide an interface and a function for fast internet remote diagnosis to be operated via the central touchscreen user interface.							
21	Auto Draping:-	Draping of the system must be facilitated by an automatic air vacuum/Auto Drape.							
22	Damping Correction:-	System should have robotic control active vibration damping mechanism to avoid disturbing vibrations.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
23	Surgical Fluorescence:-	The Tumor Sodium fluorescence mode, where fluorescence objects are emphasized in a greenish- yellow colour and the fluorescence can be observed looking through the eyepiece while simultaneously object that are not fluorescence almost completely keep their natural color. The system must give the excitation in the wavelength range from 460 to 500nm and observation in the wavelength range from 540 to 690 nm as it is comfortable to the observer along with distinguish the tumor cell.							
23.1		System should have verification possibilities of vascular anastomosis & vascular clipping verification.							
24		Detachable mouth switch accessory for controlling the movement of microscope.							
25	Appropriate UPS backup	Required							
26	Certification from the manufacturer:								
26.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
26.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
26.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
26.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
26.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
26.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
26.7		Final operating test by manufacturer							
26.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
26.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
27	Maintenance:								
27.1		2 years free maintenance.							
27.2		Service manual & operation manual {Hardcopy & Softcopy}							
27.3		Spare parts list with code NO							
28	Training :	User /Nurses training, by Specialist from the Supplier.							
29	Power supply	100 to 240 V ~ ±10%, 50 Hz							
30	Other specification	Please specify.							
مواصفات جهاز جراحة المخ والأعصاب الاستيروتاكتيك جهاز رسم خارطة موقع الورم في الدماغ					0				
NO	**STEROTACTIC (Neuronavegation) MACHINE**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
4	**Technical specification**								
		The system should be easy to set up,user friendly,intuitive and should work under linux/unix/windows operating system environment.							
		The navigation system should have point as well as surface registration with accuracy prediction system.							
		The navigation system must have dynamic referencing so that registration is not lost even if camera the patient moves.							
		Should have facility for marker less registration.							
		Should have user friendly application software.							
		The system should have facility of keeping optical camera and viewing system together or separately to allow optical use of OP space.The system should have two monitors,one for the surgeon and the other for the OP/Technical staff.							
		The surgeon monitor should be high resoluttion (at least 1920 x 1200 ,50Hz) with aviewable size of at least24" widescreen							
		It should have hybrid tracking system with active and passive instrument.							
		It should have universal instrument adapter tracking system with active & passive option..							
		The system should have image guided spinal instruments like short drill guide,AWI,Probe and tap system with straight or T handles option.							
		The system should include aframeless biopsy system with needles.							
		The system should interface with all major microscope systems available at hospital.							
		The microscope interface should be such that the navigation system can track microscope's focal point and trajectory plan.							
		The microscope interface should give heads up display.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		The navigation system should have hardware & software for stereotatic sutgery including functional stereotatic procedures.The software should reorient the scan images along the AC-PC plane.The stereotatic system should be adaptable to major frames.							
		Navigation system should have a grid & deformable atlas for better navigation.							
		The system should have 3D graphics capability and software to merge CT & MRI images of machine present at hospital.							
		Look ahead view capability to show the images at 1mm to 20mm (increments of 1mm) in front of the probe.							
		All applications should have US FDA or CE approval.							
		The spine application should be a unified spine application which should comprise of 3D spine (Spine navigation with spine CT Data) and virtual fluoroscopy navigation for spine.							
		The application should be able to memorize multiple surgeon preferences foe each procedure.							
		There should be wireless control from the sterile field in form of surgeon mouse.							
		It should be able to do acustomized setup and automated functional check.It should have universal instrument adaptor tracking system with active and passive option.							
		System should have facility of virtual fluoroscopic navigation for spinal applications compatible with 9"/12" C-Arm available at hospital.							
		The system should have navigation instruments for minimal invasive spine procedures.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Certification from the manufacturer:**								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
6	**Maintenance:**								
		preferred less maintenance needed. 2 years free maintenace.							
		Service manual operation manual {Hardcopy & Softcopy}							
		application software and interface connection Included.							
		spare parts list with code NO							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Power supplay	**100 to 240 V ~ ±10%, 50/60 Hz Single phase**							
	Other specification	Please specify.							
مواصفات جهاز جراحة الاورام (جاما نايف)					0				
NO	**STEREOTACTIC RADIOSURGERY SYSTEM (GAMMA KNIFE) For Neurosurgery**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
		The system must be FDA approved and CE marked							
4	**MARKET CLEARANCE FOR EITHER:**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology high quality							
		Operational Requirement: Stereotactic Radio surgery (Gamma Knife) should deliver a single/fractionated radiation therapy to the critically located targets in the brain.							
5	**Technical specification:**								
		1. The System is intended for intra-cranial radiosurgery with the principle of simultaneous cross-firing from multiple radiation sources spread over a large spatial angle.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		2. Should be supplied with all components of a fully automated system with integrated single robotic system, consisting of multiple collimators and robotic couch movements.							
		3. Should comprise treatment planning system, system tool kit, spare part kit for the coordinate frame, skull scaling instrument, CT planning kit, MRI planning kit, X-ray planning kit etc.							
		4. Should be supplied with the model of Cartesian coordinate frame kits with integrated insulated fixation post with plastic inserts conforming to the XYZ nomenclature.							
		5. Should be able to treat functional targets as small as 4mm upto several centimeters target.							
		6. Radiation source(s) should be stationary during irradiation of patient.							
		7. Radiation unit should be with radiation shielding doors with collimator system							
		8. Radio-physical data with total cobalt 60 activity <6600Ci(2.44 x10-14Bq)							
		9. Single source activity deviation <10% of average source activity with dose rate measured in calibration condition of >3Gy/min. The Number of cobalt 60 sources should be more than 190.							
		10. The system should have the minimum accuracy data of patient positioning system <0.2mm with mechanical isocentre radius of <0.3mm and total radio physical accuracy of <0.5mm. The treatment time should have the treatment timer <0.2%.							
		11. Positioning accuracy should be better than 0.1 mm							
		12. Timer accuracy should be better than 0.2%							
		13. Total radio physical uncertainty should be better than 0.5mm							
		14. Positioning principle should be Automatic robotic patient and repositioning for multiple isocentres.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		15. Communication with treatment planning system should be dedicated point-to-point communication over RS232, Ethernet, or other industry standard computed communications protocol.							
		16. Beam penumbra should be better than 1.2 mm for all beam sizes and configuration.							
		17. Collimator leak should be less than 0.4 percent							
		18. Quality Assurance of Radiosurgical device should have fully documented and automated Quality Assurance. Includes Quality assurance tools covering:							
		a. Accuracy of patient positioning system							
		b. Dose radio physical accuracy							
		c. Dose spatial accuracy							
		19. Integrated Record and Verify System should have the following function:							
		Record: Radiosurgical system must automatically record treatment parameters including treatment time per isocentre, isocentre position to accuracy of 0.2mm, collimator size(s) per isocentre, all patient positions during treatment, date and time of treatment.							
		20. Effective dose should be more than 3Gy/min at commissioning.							
		21. Dosimetrical accuracy should be better than 3 percent for all beam configurations.							
		22. Average treatment time for 6 isocentre treatment, with multiple collimator sizes should be less than 45 minutes.							
		23.Treatment capacity should be documented for at least 600 patients/year.							
		24. Image import capability should be DICOM image transfer over network, DICOM on CD ROM, FTP, MO-disc, DAT tape.							
		25. Image modalities should be MR, CT, PET, DSA, ANGIO, MEG. Documented use of MRI without the need for fusion of images with CT.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		26. Non-Stereotactic images Co-registration should be able to automatically co-register non-stereotactic images with stereotactic images to use both sets in treatment planning.							
		27. Color PET display should be available in software.							
		28. Stereotactic image fusion should be automatic.							
		29. Target outlining should be automatic and manual.							
		30. Number of isocentres allowed in treatment plan for a single patient should be at least 50.							
		31. Should have multiple target support							
		32. Should have alternate dose plan support.							
		33. Graphical presentation should be simultaneous 2D and 3D allowed, simultaneous CT and MR allowed.							
		34. Stereotactic scaling should be automatic with full error analysis.							
		35. Should have a non-invasive repeat fixation device based on vacuum assisted mouthpiece and should be fully integrated with the stereotactic robotic system and should enable fractionation.							
6	**GENERAL REQUIREMENTS FOR SAFETY:**								
		1. Patient positioning system with patient couch and automatic positioning system.							
		2. Covers for radiation unit and patient positioning system							
		3. Electric cabinet with cabling							
		4. ECU- central unit with safety system electronic board, circuit breakers and cabling							
		5. SDU- sector drive electronic board , circuit breakers and cabling							
		6. PPC1-software, PPC-2 software , Medical UPS							
		7. Operator area to be equipped office cabinet, keyboard and mouse							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		8. Operator console with patient and operator audio/video, power supply up to insulators, cabling and connectors, flat screen monitors, office UPS, MCU kit, MCU PC with USB CAN, MCU software							
		9. Robotic treatment couch with height adjustable, manual controls for treatment setup							
		10. Frame adaptor for interfacing between coordinate frame and system clearance check tool, tool storage cabinet for storage of frame adaptor, QA tool, clearance check tool etc.							
		11. Document set complete with installation and supplementary document, instructions for use, emergency routines, signs and labels.							
7	**TREATMENT PLANNING SYSTEM SHOULD INCLUDE:**								
		1. Server, one connectivity license for system, one patient database							
		2. One DICOM server							
		3. Treatment plan client with One treatment plan base license, one treatment dose planning license							
		4. Workstation with high performance dual processing Intel							
		5. XEON workstation with quadro high end graphic card 250 GB							
		6. SATA disk and 2 GB RAM , one 19” TFT monitor.							
8	**TREATMENT PLAN DOCUMENTATION & MEDIA KIT**								
		1. Linux software operating system(including Red Hat License)							
		2. Database backup device one USB 2 external hard-disk							
		3. Laser jet printer-4							
		4. System tool includes: QA tool for radiation focus precision check							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		5. Frame cap to be used during patient preparation for a treatment with the system. It is intended as a quick measurement tool to facilitate a smooth workflow.							
9	**COORDINATE FRAME KIT FOR THE SYSTEM INCLUDES:**								
		1. Frame with feet and straight front piece							
		Front Piece, Curved							
		Insulated Fixation Post, Anterior							
		Insulated Fixation post, Short							
		Insulated Fixation post, Long Posterior							
		Locking screw, 5 x 19 mm Titanium							
		Locking piece for fixation post							
		Ear Plug Holder, Right							
		Ear Plug Holder, Left							
		Ear plug							
		Fixation Screws, Titanium, kit of 20 pairs							
		Instrument Screw Driver, Double							
		Sterilization tray for frame							
		Disposable inserts 25 x 4 pieces							
		Instructions for use, Coordinate Frame Kit							
		Instructions for use, Insulated fixation posts							
		Quick Reference Guide							
		2. Spare Part Kit for Coordinate Frame consists of							
		4 pieces of each of the following:							
		Locking Screw, 5 x 19 mm, Titanium							
		Locking piece for Fixation posts							
		Screw, 4 x 10 mm, Titanium							
		3. Skull scaling instrument for measurement of skull shape for modeling							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		4. CT planning kit including CT indicator fiducial box for CT imaging procedure							
		5. CT adapter for fixation of the stereotactic frame to the CT table fixation							
		6. CT table fixation for fixation the CT adapter to specified CT Table							
		7. DICOM CT connectivity to allow importation of CT images							
		8. MRI planning kit consisting of MR adapter fixing the stereotactic frame to specified MR table							
		9. MR indicator as the fiducial box for MR imaging procedure							
		10. DICOM MR connectivity to allow importation of MR Images							
		11. X ray planning kit consisting of X ray indicator fiducial box for angiography imaging procedure							
		12. X Ray adapter and support for the stereotactic frame to specified angiography table							
		13. DICOM XRay connectivity to allow importation of DICOM Xray(Digital Subtraction Angiography)							
		14. DICOM OT connectivity for cut film angiography to allow importation of DICOM OT(OTHER) images							
10	**POWER SUPPLY:**								
		The electrical data with the power consumption of approximate 1.6 KVA with 230V AC +-10%							
		Uninterrupted power supply should be able to perform treatment continued if power supply is interrupted for at least 60 minute.							
		For this appropriate rating online UPS & dedicated DG Set are to be provided.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		If power supply is interrupted for greater than 60 minute, treatment may be interrupted for resumption later. However, all treatment data must be automatically computer recorded for accurate and safe resumption of treatment when reliable power is returned.							
11	**SUPPORT AND EDUCATION & TRAINING FOR SYSTEM**								
		Education and training services with on-site clinical start-up application							
		should be provided by the experienced neurosurgeon, radiation oncologist and radiation physicist certified by manufacturer.							
		It should include introductory course principle and practice, treatment planning, patient treatment.							
		At least two neurosurgeons, a Radiation oncologist, a medical physicist and a biomedical engineer should be trained by the vendor for four weeks in a well established reputed institution situated abroad at their cost.							
		The following support services are delivered in addition to parts warranty during the warranty period.							
		Maintenance System Management Customization of the maintenance schedule for maximum equipment availability, performance and safety with minimum disruption to clinical patient flow.							
		Planned maintenance such as Preventive Maintenance inspections in accordance with company recommended maintenance intervals and procedures performed by company certified engineers.							
12	**STANDARDS AND APPROVALS**								
		Following Certificates to be submitted in technical bid							
		1. The model should have US FDA and CE (notified body) approvals.							
		2. EN/IEC 60601-1 Medical Electrical Equipment –General requirements for safety.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		3. EN/IEC 60601-2 Collateral standard: Electromagnetic compatibility							
		The Equipment must be type-approved by AERB and the lay out plan to house the equipment should also be approved by AERB.							
13	**TURNKEY WORK:**								
		1. Site planning, site visit and survey by service staff for complete site planning will be done by the bidder.							
		2. Co 60 loading service using specific loader with certified personnel							
		3. The vendor shall provide an accurate architectural and structural layout plan for housing the SRS machine. Logical workflow and radiation safety norm should be adhered to.							
		4. The SRS machine should be located in a concrete vault as per AERB guidelines							
		5. The layout plan should be made in consultation with the user and the responsibility of getting the same approved from AERB lies with the hospital and the vendor would support the hospital with adequate site drawings.							
		6. As per the drawing planned by the bidder, all the civil, electrical, air conditioning, furniture and furnishing of the room shall be provided by the vendor.							
		7. Appropriate rating Generator set and Online UPS as specified for SRS machine shall have to be provided by the vendor.							
		8. All necessary approvals from various agencies like, civil, electrical, architectural, AERB etc would be facilitated by the department/user.							
مواصفات جهاز جراحة الاورام بالروبوت					0				
NO	**Stereotactic body radiation therapy fully robotic radiotherapy device**				0				

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
		The system must be FDA approved and CE marked							
4	**MARKET CLEARANCE FOR EITHER:**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology high quality							
		6-axis robotic manipulator mounted on a pedestal at the head of patient area							
		touch screen interface							
	Treatment Couch								
	Range of Motion								
		Anterior/Posterior 28 cm							
		Right/Left ±15 cm							
		Superior/Inferior ≥91 cm							
		Head Up/Head Down ±5˚							
		Right/Left Tilt ±5˚							
	Control	Remote Workstation Local Hand Pendant							
	Point of Rotation	Fixed: Determined by mechanical assembly of the actuators							
	Dosimetry Specification								
	Chamber type	Dose Chamber A: Sealed ion chamber Dose Chamber B: Sealed ion chamber segmented for symmetry monitoring							
	Resolution	≥ 25 counts per MU							
	Dosimetry System	A two-channel primary/secondary dosimetry system is provided							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	X-ray Energy	6MV nominal photon energy							
	Depth of Maximum Dose	15 mm ±2 mm							
	Dose Rate	1000 MU/min ± 10% measured at 800 mm							
	Dosimetry Linearity	Dosimetry linearity with total dose is less than ±1% or ±1 cGy, whichever is greater over an accumulated range of 10 cGy to 1000 cGy, measured at 800 mm SAD within the operating temperature and pressure range							
	Quality Index	Between 0.62 and 0.67 for a 60 mm fixed collimator							
	Leakage	Leakage in the patient plane is less than 0.2% maximum and							
	Mechanical Rack, including:	Chiller, Air compressor, SF6							
	Advanced Magnetron Modulator) Rack, including:	(Linac Control Computer) (Linac Power Distribution Unit) (Modulator Control Chassis) Gun driver Modulator Modulator HVPS							
	Computer Rack, including:	KVM extender UPS Iris temperature controller Monitor and keyboard ELCC (E-Stop Interlock Control Chassis) TLS (Target Locating System) workstation UCC (User Control Console) workstation SFB (Secondary Feedback) workstation iDMS™ Data Management System Storage Vault (option) Network delivery switch Network delivery firewall Core switch Gateway workstation							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Workstation	CPU Dual Six-Core CPUs Memory 32GB DDR4 2133MHz Storage 2x 300 GB SAS 2.0 15 K Drives mirrored for a total of 300 GB of storage Graphics Card Nvidia Quadro M2000 Ethernet Port 2x Gigabit ethernet port Power Supply Dual redundant power supply							
	Data Managemen System	CPU Quantity: 4, Dual Intel® Xeon E5-2620 v3 Memory (RAM) 32GB DDR4 2133 MHz C Drive Storage 2x2TB drives configured in a RAID 1 providing ~2TB storage. Operating system host D Drive Storage: 4x600GB SAS 15k drives configured in a RAID 6 providing ~1TB storage. Live patient database and configuration parameters host E Drive Storage 4x2TB drives configured in a RAID 6 providing ~2TB storage. Database snapshot and archived patient records host Operating System Microsoft Windows OS							
	Collimation Systems	12 fixed secondary collimators with circular field sizes ranging from 5 mm to 60 mm in diameter at 800 mm SAD							
	Collimator Transmission	X-ray transmission through the blank collimator at 800 mm SAD does not exceed 0.2% of the central axis (CAX) dose rate of a 60 mm fixed collimator							
	Available Apertures	Collimation sizes: 5, 7.5, 10, 12.5, 15, 20, 25, 30, 35, 40, 50 and 60 mm nominal field sizes at 800 mm SAD							
	MULTILEAF COLLIMATOR (OPTION)								
	Beam Targeting	Non-Coplanar beam targeting							
	Secondary Check for Leaf Position	Internal optical camera provides live images used during treatment to verify leaf position							
	Maximum Geometric Field Size	115 mm (leaf motion direction) x 100 mm							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Leaf Tilt	Leaves tilted 0.5˚							
	Leaf Tip Design	Three-Sided							
	Leaf Width	3.85 mm at 800 mm SAD (normalized for leaf pitch)							
	Leaf Material	Tungsten							
	Leaf Positioning Accuracy	Better than ± 0.95 mm at 800 mm SAD from either direction at all possible orientations							
	Leaf Over-Travel	1							
	Leaf Inter-Digitation	Full Leaf Inter-Digitation							
	Transmission	<0.3% average (<0.5% maximum) relative to a 100 mm x 100 mm field size at 800 mm SAD							
	X-RAY GENERATOR								
	Power Rating	50.0 kW							
	Radiographic Range	40-150 kVp ± (5% + 1 kVp)							
	X-RAY SOURCES SPECIFICATIONS								
	Tube Voltage	Nominal Tube Voltage 40-150 kV							
	Focal Spot Value	Large focus: 1.2 mm Small focus: 0.6 mm							
	Anode Input Power	Large focus: 100 kW Small focus: 40 kW							
	System Interfaces	DICOM Image Import DICOM RT Structure Set Import DICOM Image Export DICOM RT Structure Set Export DICOM RT Dose Export							
	General specification								
		Image Guidance System							
		Robotic Manipulator							
		Treatment Delivery Control Console							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		1000 MU/min linac							
		Fiducial Tracking System 6D Skull Tracking System Xsight Spine Tracking System Brain AutoSegmentation							
		Prostate Package Male Pelvis AutoSegmentation In Tempo Adaptive Imaging System							
		FISpine Prone + Lung Package Xsight Spine Prone Tracking Synchrony Respiratory Tracking System Xsight Lung Tracking System Lung Optimized Treatment Monte Carlo Dose Calculation 4D Treatment Optimization and Planning System							
	Essential requirement:								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		Application software and interface connection Included.							
		• Service manual and operation manual {Hardcopy & Softcopy}							
	Warranty	2 years, including all spares and caliberation.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
	UPS	Online UPS shall be Provided							
	Electrical Requirement :	100-230 VAC 50/60 Hz single phase							
	Other specification	Please specify other specification							
مواصفات ادوات الجراحة					0				
NO	**Operating TOOLS**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**								
	FDA CLEARANCE	Required							
	CE MARK (MDD)	Required with							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
4	**Technical Specifications:**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Material:**	Stainless Steel							
6	**Reusable or Disposable:**	Reusable							
7	**Sterile or Non-Sterile:**	Non-Sterile							
8	**Latex-Free:**	Yes							
9	**Rust Prevention Procedure:**	Passivation							
10	**Ultrasonic Cleaned:**	Yes							
11	**Matt-Polished:**	Yes							
12	**Lubricate:**	Yes							
13	**Usage:**	Left Hand or Right Hand							
14	**Tests Performed:**	Boil Test, Performance Test, Shape Test							
15	**QC Passed:**	Yes							
	Each set contains the following:								
1		Bowl Lotion 250 mm	pcs	2					
2		Gallipot/Cup S/S 180 ml	pcs	2					
3		Gallipot/Cup S/S 250 ml	pcs	2					
4		Tray Kidney shape with Lid S/S 200 X 30 mm	pcs	2					
5		Tray Kidney shape with Lid S/S 300 X 50 mm	pcs	2					
6		Forceps artery Kocher COF BJ.S/S 180mm.	pcs	20					
7		Forceps Artery Spencer Wells CO Flat (bj).S/S 200 mm	pcs	15					
8		Forceps Dissecting Plain serrated jaws S/S 150 mm	pcs	6					
9		Forceps Dissecting Plain serrated jaws S/S 250 mm	pcs	1					
10		Forceps Dissecting narrow, serrated jaws S/S 200 mm	pcs	1					
11		Forceps Dissecting Lane's 2x3 teeth 180 mm	pcs	3					
12		Forceps Dissecting Waugh, fine serr.jaws 1x2 Tth 200 mm	pcs	1					
13		Forceps Tissue Allis fine 4 x 5 Teeth BJ.S/S 150 mm	pcs	4					
14		Forceps Towel Holding cross Action S/S 100mm	pcs	8					
15		Forceps Towel Moynihan, Double Teeth (bj) 190mm	pcs	4					
16		Forceps Sponge Holding Rampley BJ S/S 240 mm	pcs	5					
17		Handle size 3 for Scalple blades size 10-15	pcs	1					
18		Handle size 4 for Scalple blades size 20-24	pcs	1					

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
19		Needle Holder Kilner's 165 mm	pcs	1					
20		Needle Holder Mayo Hegar BJ.S/S 180mm	pcs	2					
21		Scissors Blunt Point Straight SJ. S/S 180mm	pcs	1					
22		Scissors Mayo’s CO Flat 200mm S/S	pcs	1					
23		Scissors Mayo’s Straight 200mm S/S	pcs	3					
24		Scissors McIndoe's CO Flat 190mm S/S	pcs	1					
25		Retr.Deaver #1-Blade 25mm, Length 305mm	pcs	1					
26		Retr.Deaver #5-Blade 75mm, Length 305mm	pcs	1					
27		Retr. Lange beck, H/H 26x64 Blade, 210 mm Long	pcs	2					
28		Retr. Morris Double-ended (52x38)&(52x64) mm	pcs	2					
29		Retr. Walton, malleable copper 13mm length 305mm	pcs	1					
30		Needle Aneurysm S/S . Small 146 mm	pcs	1					
31		Pin Safety Mayo, forceps holding, 120mm	pcs	4					
32		Suction Tube McIndoe	pcs	1					
33		Suction Tube Poole's S/S 225mm	pcs	1					
34		Sterilizing and storing case St. St. with filters 260x150x50 mm	pcs	2					
35		Wire Cutting, Tungsten .Carbide inserts 180mm.	pcs	1					
36		Product quality certificates: Valid US FDA / European CE certificate							

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اجهزة قسم عمليات جراحة الأطفال

(Paediatric) Operating Department

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم العمليات							
		Operation room department							
		مواصفات جهاز تخدير الأطفال			0				
NO		Anesthesia patient monitor			0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**								
	FDA CLEARANCE	Required							
	CE MARK (MDD)	Required with							
		Verified compliance with below standards through submission of test reports or certificates: - IEC 60601-1:2005 + A1:2012(E) Medical electrical equipment - Part 1: General requirements for basic safety and essential performance. - IEC 60601-1-2:2014 Medical electrical equipment - Part 1-2: General requirements for basic safety and essential performance - Collateral standard: Electromagnetic compatibility - Requirements and tests - IEC 60601-2-19:2009+AMD: Particular requirements for the basic safety and essential performance of Anesthesia machine							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
	Type	Mobail with Four casters with brakes, new model, able for high load & hard work.							
4	**PATIENT TYPE**	Adult, pediatric, Neonat							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**System components**								
		Original cart with antistatic braked castors, shelves and 2-3 drawers. The basic unit must form rigid stable and easy for use.							
		Ventilator							
		Multi vaporize capability							
		Regulators and flow meters							
		CO2 absorber							
		Spirometer							
		SCAVENGING SYSTEM:Active or passive							
		patient monitor							
		Adult and Pediatric autoclavable silicone breathing circuits X2							
		Medical air comperasor							
		Adult and Pediatric Ambu Bag X2							
		Adult and Pediatric Endo tracheal tubes sets X2							
		Adult and Pediatric Air way with Mouth prop and Tongue depressors							
6	**Circulation system**								
		Compact							
		Sterilizable							
		Changeable from rebreathing (closed) to non-rebreathing (open)							
7	**Gas mixing system**								
		Mechanical safety system							
		O2 flow meters (two tubes)							
		N2O flow meters (two tubes)							
		Air flow meters (one tube)							
		Nitrous oxide blockage with constant alarm							
		N2O , O2 ratio control							
		Control of gas supply for O2 and air and for all gases							
		Safety valve built in to patient system							
8	**CO2 absorber**								
		Bag /ventilator switch							
		By-pass switch							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Pressure reading (Manometer or Electronic)							
		canester (2 kg capacity or 1.5 L)							
9	**VAPORIZERS, AGENTS**								
		Two vaporizers							
		Supplied with isoflurane							
		Supplied with sevoflurane							
	Mounting mechanism	Selectatic type or better							
		Fast coupling system							
	Type	Variable bypass or better							
	Interlock	Required							
	Agent level indicator	Required							
10	**Gas Anesthesia monetoring**	Preferab							
11	**O2/N2O cylinders yokes.**	Included							
12	**O2**								
13	**O2–flush**	Included							
14	**O2 FAIL-SAFE**	Required							
15	**Mechanical anti hypoxic device (AHD)**	Included							
16	**HYPOXIC MIXTURE FAIL-SAFE**	Required							
17	**Central gas supply**	O2/N2O/Air, medical quality 3-6 bar							
18	**(Pipeline gas inlet)**	Selector switch for O2/N2O and O2/Air							
19	**Flow meters**								
		Color coded							
		O2 : 0.05-15 L/min or better							
		Air: 0.2-15 L/min or better							
		N2O: 0.05-10 L/min or better							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
20	**Ventilator**								
21	**Electronically controlled**	Required							
22	**Bellow system**								
		Range from pediatric to adults							
		Standing , easily seen							
23	**Ventilation modes (selectable)**								
		Stand by							
		Spontaneous							
		Manual							
		CMV (Pressure control/ Volume control)							
		SIMV							
		pressure support, advanced modes							
24	**Monitor parameter readings**								
	Airway pressure	Required							
	High-pressure alarm	Required							
	Subatmospheric pressure alarm	Required							
	Continuing pressure alarm	Required							
	Low pressure/apnea	Required							
	Expiratory volume/flow	Required							
	Type of sensor	Flow sensor							
	Where measured	Required							
	Rate alarm	Required							
	Apnea alarm	Required							
	Reverse-flow alarm	Required							
	High/low minute volume	Required							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	High/low flow	Required							
	O2 concentration	Required							
	Type of sensor	galvanic, paramagnetic							
	Response time, sec	<15							
	Agent monitors	Required							
	Frequency	Required							
	I : E ratio	Required							
25	**Monitor graphic waveforms**	Volume							
		Pressure							
26	**Technical data :**								
	Respiration frequency	5-60 bpm.							
	Inspiration flow	0-180 L/min							
	Tidal volume	20-1500 ml							
	I : E ratio	1:3 to 3:1 or better							
	pressure limit, cm H2O	Adjustable							
	PEEP	0-20 cm H2O or better							
	Minute volume	>20							
	Inspiratory pause	Required							
27	**Audible and Visual Alarms**								
		Low/ high pressure							
		Low O2 concentration							
		Low/ high Volume							
		O2 inlet supply failure							
		Alarm interruption 60 sec. with rest function							
		battery alarm							
		Power failure alarm							
28	**Accessories**								
		Anesthesia masks high quality use for adulte Reusable type 2 pieces							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Anesthesia masks high quality use for pediatrics Reusable type 2 pieces							
		Anesthesia masks high quality for neonat Reusable type 2 pieces							
		Suction (pneumatic with jar)							
		Re-breathing bags high quality (all sizes) use for adults, pediatrics and neonat.							
		Re-breathing circuit high quality use for adulte Reusable type 2 pieces							
		Re-breathing circuit high quality use for pediatrics Reusable type 2 pieces							
		Re-breathing circuit high quality use for neonat Reusable type 2 pieces							
		Jackson-read modification of Ayri's 2 pieces							
		O2 sensore 2 pics							
		All needed accessories to insure full use for adults, pediatrics and neonat.							
		Test lung for adult 1 piece							
		Test lung for pediatrics 1 piece							
29	**Self diagnostic and error / calibration message**	Included							
30	**Internal rechargeable batter**	Required							
31	**Certification from the manufacturer:**								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
32	**Maintenance:**								
		preferred less maintenance needed. 2 years free maintenace							
		Service manual operation manual {Hardcopy & Softcopy}							
		Application software and interface connection Included.							
		Spare parts list with code NO							
33	**Power supply**	100 to 240 V ±10%, 50 Hz, (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1.							
34	**Training**	For technical maintenance application and user application.							
35	**Capnography/CO2 monitoring**	**Including anathesia machine or patient monitor of Anesthesia machine**							
36	**Other specification**	Please specify other specification							
		Patient Monitor With Wall Holder							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety Standard**								
	CE MARK (MDD) / FDA CLEARANCE :	Required							
5	**Design & quality**								
1	Type	Wall mounted fixing, New model, able for high load & hard work							
2	patient type	Adult, pediatric, neonate							
3	quality	High quality							
6	**Display size and type**								

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
1		12" min or more							
2		High resolution multi-color display LCD color touch screen							
3		Medical type (preferable) or supported with isolation transformer							
7	**Displayed information**								
1		Min. 6 vital waveforms, cab be colored separately							
2		Numeric data for the measured vital parameters							
3		Vital parameters (24) hrs trends							
4		Vital parameters alarms audio visual							
8	**Defibrillation protection**	Available for the measured vital parameters							
9	**Required vital parameters:**								
9.1	**ECG:**								
9.1-1	Leads	Selection (3,6,12 leads facility)							
9.1-2	Values	ECG lead waveform, label, HR gain as min.							
9.1-3	HR range	30-200 bpm							
9.1-4	Alarms	Leads off, Hi + Low HR, Atrium and ventricle tacicardia, Atrrium and ventricle vabrilatione.							
9.1-5	Gain	5, 10, 20 mm/mV							
9.1-6	Preferable items	ST, Arrhythmia, cascade ECG							
9.2	**Respiration:**								
9.2-1	Technology	Impedance							
9.2-2	Values	Respiration waveform, R.R.							
9.2-3	R.R. range	5-80 bpm							
9.2-4	Alarms	Hi & low R.R.							
9.2-5	Apnea alarm	15-25 sec. Preferable							
9.3	**NIBP:**								
9.3-1	Technology	Oscillometric							
9.3-2	Values	SYS , DIA , MEAN , P.R.							
9.3-3	Modes	Auto, Manual							
9.3-4	**Cuff pressure range**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9.3-4-1	Up to 250mmHg Adult	Required							
9.3-4-2	Up to 200mmHg Pediatric	Required							
9.3-4-3	Up to 150mmHg Neonate	Required							
9.3-4-4	Alarms	Hi and low, SYS, DIA							
9.4	**SPO2**								
9.4-1	Values	SPO2 waveform, SPO2% , P.R.							
9.4-2	SPO2 range	50 - 100 %							
9.4-3	Pulse rate range	25-200ppm							
9.4-4	Alarms	Hi & low SPO2 + P.R. sensor off							
9.5	**Temperature:**								
9.5-1	Values	T1 and or T2							
9.5-2	Range	30-45°C							
9.5-3	Alarm	Hi & low							
10	**Required accessories:**								
1		Reusable ECG cables for adult & pediatric							
2		Reusable SpO2 finger sensor for adult & pediatric							
3		Reusable skin temperature sensor for adult & pediatric							
4		Reusable NIBP cuff with hose for adult & pediatric (4 sizes)							
5		IBP interface cable							
6		Mounting arm shall be attached to wall, Bedhead unit or pendant							
7		Shall include all required accessories, modules, cables, software, licenses etc for full functionality							
8		The unit supplier shall provide all required adapters, interfaces etc for the bracket.							
9		Price list for all parameter modules and related accessories/consumables shall be provided							
11	**Essential requirement:**								

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
1		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
2		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
3		• Spare parts list with code NO							
4		• The supplier must ensure the availability of expertise service and maintenance.							
5		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
6		• Mention the number (with addresses and phone numbers) of installations of quoted units in Yemen							
12	**Maintenance:**								
1		Preferred less maintenance needed. 2 years free maintenace.or more							
2		Service manual operation manual {Hardcopy & Softcopy}							
3		application software and interface connection Included.							
14	**Training**	Service Training for one MWC Bio-Engineer shall be provided within the first year of warranty							
15	**Power supply**	100 to 240 V ±10%, 50 Hz, (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1.							
16	**Other specification**	Please specify other specification							
مواصفات طاولة عمليات جراحة الأطفال					0				
NO	**(Paediatric) Operating Table**				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard								
	FDA CLEARANCE	Required							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	CE MARK (MDD)	Required with							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
	Type	Mobile OR table with electrical hydraulic/Electromechanical drive via integrated batteries and mains power supply.							
		Adjustment for base locked / unlocked via hand control or by foot padel unit by means of a four post, self-levelling hydraulic locking system.							
	Characteristics of the OR table top:	OR table top is equipped with for unobstructed intraoperative access for the C-arm over the full length							
	Table top subdivided into 5 sections:								
		1. Head rest, with up / down articulation							
		2. Back rest, detachable							
		3. Pediatric Plate (incl. removable pad; radiolucent; integrated side rails to attach further accessories; scalloped to allow close access to the paediatric patient)							
		4. Seat plate with perineal cut-out							
		5. Leg rest, detachable							
	Kidney position	Powered kidney elevator/ Kidney bridge position.							
	Back section	For additional flexibility, the back section is completely detachable which allows for the use of several positioning accessories designed							
	X-ray cassette place	Guide rails underneath the table top to allow for inserting of X-ray cassettes over the complete length, including the area of the central seat section.							
	Control of the adjustment motions:	The adjustments of the hydraulically powered motions are controlled electrically from outside the intervention area via cable connected hand control							
	Powered functions	All powered functions can be controlled manually or by electrical override system.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Length of OR table top without head rest:	1500 mm or more							
	Width of OR table top:	400 mm or more							
	Total width of OR table top incl. side rails:	400 mm or more							
	Radiographic with :	400mm or more							
	Total length table base:	1070 mm							
	Max. width of base:	520 mm							
	Height incl. pads:	680 – 1130 mm							
	Powered kidney position :	220 degree							
	Lateral tilt left / right:	20° / 20°							
	Trendelenburg / Reverse Trendelenburg:	30° / 31°							
	Back plate up / down:	70° / 40°							
	Leg plate up / down:	30° / 90°							
	Accessories:								
		Arm Board multi directional and flexible							
		Side supports and body supports							
		Pediatric Stirrups, Pair -lift assist mechanism for easy one-hand adjustment for lithotomy positioning; soft pad and contoured boot comfortably secures pediatric patient's foot and lower leg. Special boot design to fit pediatric anatomy.							
		For patients ages 3 - 6 years old Junior Stirrups, Pair - lift assist mechanism for easy							
		Body straps padded							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Wrist straps							
		Anesthesia Screen							
		Anesthesia tube support							
		Gel rings – pediatric							
		Gel pads one set with pads for head trunk and feet							
	Other specification	Please specify other specification							
	Essential requirement:								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		Application software and interface connection Included.							
		• Service manual and operation manual {Hardcopy & Softcopy}							
	Warranty	2 years, including all spares and caliberation.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
	Electrical Requirement :	100-230 VAC 50/60 Hz single phase							
	Other specification	Please specify other specification							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات اطقم جراحة الأطفال					0				
NO	Paediatric Surgical Instruments Set Surgery				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard								
	FDA CLEARANCE	Required							
	CE MARK (MDD)	Required with							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
	Technical Specifications:								
	Material:	Stainless Steel							
	Reusable or Disposable:	Reusable							
	Sterile or Non-Sterile:	Non-Sterile							
	Latex-Free:	Yes							
	Rust Prevention Procedure:	Passivation							
	Ultrasonic Cleaned:	Yes							
	Matt-Polished:	Yes							
	Lubricate:	Yes							
	Usage:	Left Hand or Right Hand							
	Tests Performed:	Boil Test, Performance Test, Shape Test							
	QC Passed:	Yes							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	1. Paediatric Retractor System-1 No.								
	Complete with:-	Flexible Table mounted retraction system for Pediatric Patients of all sizes							
		Adjustable for smaller operative fields							
		Should have small, indepedentally-adjustable and removalble frame arms to follow the contours of any pediatric operative field							
		Should allow for multi-plane, multi-position hands-free retraction							
		Should allow for fast and accurate set up							
	supplied with following components -								
		Sterile Field Post – attachable to the operating table – 1							
		Sterile Field Post – attachable to the operating table – 1							
		Small Curved (wishbone) frame arm – 2							
		Snap on Clamps for attaching retractors – 6							
		Rake Retractor (2.2x1.3 cms) – 1							
		Rake Retractor – 2.2x 2.5 cms) – 1							
		Mayo Swivel Retractors (5cms x 5cms)- 2							
		Mayo Swivel Retractors (7 cms x 5 cms) – 2							
		Mayo Swivel Retractor (2.5 cms x 2.5 cms) – 1							
		Mayo swivel retractor (5 cms x 3.8 cms)- 2							
		Malleable Swivel Retractor – (2.5 cms x 2.5 cms) – 1							
		Malleable Swivel Retractor – (1.3cms x 2.5 cms) – 1							
		Malleable Swivel Retractor (1.9x5 cms) – 1							
		Malleable Swivel Retractor (1.9x7.6cms) - 1							
		Malleable Swivel Retractor (2.5x10.2cms) – 1							
		Malleable Swivel Retractor (2.5x12.7 cms) – 1							
		Malleable Swivel Retractor (2.5 x 15.2 cms) – 1							
		Malleable Swivel Retractor (3.8x7.6cms) – 1							
		Malleable Swivel Retractor (3.8x12.7cms) – 1							
		Malleable Swivel Retractor (3.8x15.2 cms) – 1							
		Splanchnic Swivel Retractor (3.8x8.9cms) – 2							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	2. Pediatric Open Surgical Instruments (Non reflective)								
	A. Finochietto Chest Retractor – Neonatal - 01								
	1	Blades Size – 10mm x 30 mm							
	2	Retractor Spread – 75 mm							
	3	Arm Length – 50 mm							
	4	Rust Proof Stainless Steel							
	5	US FDA/European CE certification							
	B. Finochietto Chest Retractor – Neonatal - 2								
	1	Blades Size – 10mm x 15 mm							
	2	Retractor Spread – 50 mm							
	3	Arm Length – 50 mm							
	4	Rust Proof Stainless Steel							
	5	US FDA/European CE certification							
	C. Finochietto Chest Retractor – Infant – 2								
	1	Blades Size – 12mm x 40 mm							
	2	Retractor Spread – 90 mm							
	3	Arm Length – 75 mm							
	4	Rust Proof Stainless Steel							
	5	US FDA/European CE certification							
	D. Finochietto Chest Retractor – Small Infant – 2								
	1	Blades Size – 12mm x 34 mm							
	2	Retractor Spread – 90 mm							
	3	Arm Length – 75 mm							
	4	Rust Proof Stainless Steel							
	5	US FDA/European CE certification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	3. Shunt related instrument								
	A. Skull trephin for Neonate & Paediatric	Required - 2 each							
	B. Hoffman Shunt Passer -2	Required							
	1	Stainless Steel							
	2	Resuable							
	3	Suitable for subcutaneous tunneling for VP Shunt							
	4	Tube – 3.2 mm Internal diameter, 4.2 mm Outer diameter							
	5	Size - 35 – 42cms							
	6	US FDA/European CE certification							
	C. Hoffman Shunt Passer - 2								
	1	Stainless Steel							
	2	Resuable							
	3	Suitable for subcutaneous tunneling for VP Shunt							
	4	Tube – 3.2 mm Internal diameter, 4.2 mm Outer diamete							
	5	Size - 60 - 65 cms							
	6	US FDA/European CE certification							
	D. Ventricular Cannula – 2								
	1	For Hydrocephalus							
	2	Reusable							
	3	Stainless steel							
	4	Closed end with three side holes							
	5	Graduated							
	6	Size – 5 Fr							
	7	Length – 10 cms							
	8	US FDA/European CE certification							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	E. Ventricular Cannula – 2								
	1	For Hydrocephalus							
	2	Reusable							
	3	Stainless steel							
	4	Closed end with three side holes							
	5	Graduated							
	6	Size – 7 Fr							
	7	Length – 10 cms							
	8	US FDA/European CE certification							
	F. Ventricular Cannula – 2								
	1	For Hydrocephalus							
	2	Reusable							
	3	Stainless steel							
	4	Closed end with three side holes							
	5	Graduated							
	6	Size – 9 Fr							
	7	Length – 10 cms							
	8	US FDA/European CE certification							
	4. Sscissor								
	General specification for all Tyeps	US FDA/European CE certification							
		Stainless steel							
		Rust Proof Stainless Steel							
	A. Mayo Dissecting Scissors – 15								
	1	Length – 4 Inch							
	2	Curved							
	3	Blunt Tip							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	B. Mayo Dissecting Scissors – 15								
	1	Length – 6 Inch							
	2	Curved							
	3	Blunt Tip							
	4	Ring Handle							
	5 Malleable Retractor								
	General specification for all Tyeps	US FDA/European CE certification							
	1	Stainless steel							
	2	Rust Proof Stainless Steel							
	A Ribbon Type Malleable Retractor – 5								
	1	Size 1 1/2 inch width, Length – 13 inches							
	2	Malleable							
	3	Ribbon type							
	B Ribbon Type Malleable Retractor – 5								
	1	Size 1inch width, Length – 13"							
	2	Malleable							
	3	Ribbon type							
	C Ribbon Type Malleable Retractor – 5								
	1	Size 1/2 inch width, Length – 7 inches							
	2	Malleable							
	3	Ribbon type							
	D Ribbon Type Malleable Retractor – 5								
	1	Size 10mm width, Length – 5 inches							
	2	Malleable							
	3	Ribbon type							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	6- Abdominal Retractor								
	General specification for all Tyeps	US FDA/European CE certification							
	1	Stainless steel							
	2	Rust Proof Stainless Steel							
	A Denis Browne Abdominal Retractor – Child Size – 1								
	1	Ring/Frame Only							
	2	Size – 18x14 cms							
	3	Stainless Steel							
	4	Oval Sproket Frame							
	B Denis Browne Abdominal Retractor – Adult Size – 1								
	1	Ring /Frame Only							
	2	Size – 25x18 cms							
	3	Stainless Steel							
	4	Oval Sproket Frame							
	C Valve Allien Retractor Blades for Denis Browne Abdominal	Retractors – 2 40x40 mm bades							
	D Valve Allien Retractor Blades for Denis Browne Abdominal	Retractors – 2 30x40 mm bades							
	E Valve Allien Retractor Blades for Denis Browne Abdominal	Retractors – 2 50x40 mm bades							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	7 Instrument cases and trays								
	A. Instrument Sterlization Case/tray – 10								
	1	Anodized Aluminum Case							
	2	Hinged top							
	3	Size 8"X14"X1" Inches with Cover							
	4	Full Silicone Finger Mat Below and slilicone cushion above							
	5	Should be good quality and durable.							
	B. Full Size Double Decker Laproscopic Instrument Tray – 5								
	1	Should be suitable for holding full sized Laparoscopy Instruments							
	2	Should have holders for 3mm, 5mm and 10 mm Instruments							
	3	Should have silicone mat to protect the instruments							
	4	Size – 23inch x 11 inch x 8 inch							
	5	Should accomodate minimum 12 instruments							
	6	Should be made from High grade anodized aluminium							
	7	Should be good quality and durable.							
	C. Clear Top Telescope Trays – 10								
	1	Should be suitable for securely holding Laparoscopic/cystoscopic telescopes							
	2	Length – 15 inches, Width – 2.5 inches, Height – 1.5 inch							
	3	Should be suitable for telescopes from 1mm to 10 mm							
	4	Should be able to accomodate two telescopes							
	5	Should have soft silicone base to prevent damage to instruments							
	6	Should have a robust locking mechanism to prevent inadvertant opening							
	7	Should be good quality and durable							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	D. Instrument trays – 10								
	1	Stainless steel							
	2	Size 20inch x 12 inch x 2.5 inches							
	3	With Cover							
	4	Should be good quality and durable.							
	E. Wire Baskets for Storage and Sterlization – 10								
	1	Stainless steel							
	2	Size – 19 inch x 10 inch x 2 inches							
	3	Should be provided with compatible wire mesh cover							
	4	Should be good quality and durable.							
	F Wire Baskets for Storage and Sterlization – 10								
	1	Stainless steel							
	2	Size – 10 inch x 10 inch x 2 inches							
	3	Should be provided with compatible wire mesh cover							
مواصفات جهاز غسل وتعقيم المنظار					0				
NO	**Endoscopic washer and disinfector system**				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard								
	FDA CLEARANCE	Required							
	CE MARK (MDD)	Required with							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA								
	A- Automated Endoscope cleaning & Disinfector (RE-PROCESSOR).	**Complete with:-**								
		Fully automatic microprocessor based endoscope re- processor. Should have facility of Reprocessing of at least one endoscope per cycle.								
		Should be with single door with front/top loading system with glass window and light inside								
		The system should able to re-process all type of Flexible endoscopes, Gastroscopes, Colonoscopies, Duodenoscopes, Rigid endoscopes, Enteroscopes etc per cycle								
		Should have Touch control panel with LCD Color display with highlighting of remaining cycle time to cycle completion								
		Should have integrated sterile air filter (0.2µm) for channel purging and drying								
		Should be with integrated endoscope channel monitoring system with 2 independent sensors.								
		Should have leak test at the beginning of the cycle and also should have continuous monitoring during all the phases with automatic cycle stop in case of emergency.								
		Should have conductivity sensor and two chemical dosing pumps and also should have option for 3rd dosing pump								
		Should be compatible and tested with Peracetic acid (Cold disinfection) and Glutaraldehyde (thermo- chemical disinfection).								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Should be supplied with washing cart for Flexible endoscope, rigid scopes and should also supply complete range of manufacturer specific adaptors and connectors for the different endoscopes re-processing							
	B- Drying cabinet for Flexible endoscopes.	**Complete with:-**							
		Microprocessor based automatic Drying and Storage cabinet for endoscopes with capacity of storage of at least 5 flexible endoscopes.							
		The frame and panel of the drying and storage cabinet should be made of high quality medical grade Stainless steel with Single door made in Medical grade Tempered glass							
		The storage and drying cabinet should be supplied as standard version cassettes and endoscope fast connections.							
		Should have option for BARCODE or RFID for instruments/ operator recognition.							
		Should have fully expendable drawers & vertical storage position as well.							
		The storage cabinet should have high level HEPA class 14 air filtering and indirect UV air treatment.							
		Should provide all consumables for 200 cycles.							
		The prices of all consumables and accessories should be quoted separately which will be fixed for a period of 5 years							
	Other specification	Please specify other specification							
	Paediatric Surgery								

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات					0				
NO	Endoscopic washer and disinfector system				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard								
	FDA CLEARANCE	Required							
	CE MARK (MDD)	Required with							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
	A- Automated Endoscope cleaning & Disinfector (RE-PROCESSOR).	**Complete with:-**							
		Fully automatic microprocessor based endoscope re- processor. Should have facility of Reprocessing of at least one endoscope per cycle.							
		Should be with single door with front/top loading system with glass window and light inside							
		The system should able to re-process all type of Flexible endoscopes, Gastroscopes, Colonoscopies, Duodenoscopes, Rigid endoscopes, Enteroscopes etc per cycle							
		Should have Touch control panel with LCD Color display with highlighting of remaining cycle time to cycle completion							
		Should have integrated sterile air filter (0.2µm) for channel purging and drying							
		Should be with integrated endoscope channel monitoring system with 2 independent sensors.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Should have leak test at the beginning of the cycle and also should have continuous monitoring during all the phases with automatic cycle stop in case of emergency.							
		Should have conductivity sensor and two chemical dosing pumps and also should have option for 3rd dosing pump							
		Should be compatible and tested with Peracetic acid (Cold disinfection) and Glutaraldehyde (thermo- chemical disinfection).							
		Should be supplied with washing cart for Flexible endoscope, rigid scopes and should also supply complete range of manufacturer specific adaptors and connectors for the different endoscopes re-processing							
	B- Drying cabinet for Flexible endoscopes.	**Complete with:-**							
		Microprocessor based automatic Drying and Storage cabinet for endoscopes with capacity of storage of at least 5 flexible endoscopes.							
		The frame and panel of the drying and storage cabinet should be made of high quality medical grade Stainless steel with Single door made in Medical grade Tempered glass							
		The storage and drying cabinet should be supplied as standard version cassettes and endoscope fast connections.							
		Should have option for BARCODE or RFID for instruments/ operator recognition.							
		Should have fully expendable drawers & vertical storage position as well.							
		The storage cabinet should have high level HEPA class 14 air filtering and indirect UV air treatment.							
		Should provide all consumables for 200 cycles.							
		The prices of all consumables and accessories should be quoted separately which will be fixed for a period of 5 years							
	Other specification	Please specify other specification							

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اجهزة قسم جراحة القلب (تخصصي)

CARDIAC SURGERY Department

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
اجهزة قسم العمليات									
	Operation room department								
اجهزة قسم جراحة القلب (تخصصي)									
	CARDIAC Department								
مواصفات جهاز تروية القلب والرئة					0				
NO	Heart lung machine				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
4	**Heart lung**	Heavy duty, able for high lode&heard work							
		The machine shuld be of latest model and must have lattest technology high quality							
		The machine shuld be safe to use both for the operator and the patint the machine must comply with protection against leakage current, protection against electric shock class I,							
5	**pumps**								
		It should have a spill proof base which can accommodate 5 pumps.							
		It should have easy access to connectors for interchanging the pumps.							
		All 5 pumps should operate independently and should have:							
		On-Off switch							
		Forward/Reverse Switch							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Stop switch							
		Speed control							
		Tube clamp assembly							
		Non reversing had crank							
		One pump out of five should provide or pulsatile flow facility.							
		One pump out of other four should have Double Head Pump for pediatric perfusion.							
		Each pump should have convenient had occlusion setting.							
6	**Occlusion**	It should be provided with electronic occlusion for controlling venous occlusion.							
7	**Monitor and display**	Machine should monitor and display:							
		Flow rates for varying tubing sizes							
		Air Bubble							
		Oxygenated Blood level							
		Four pressures lines							
		Core temperature							
		Skin temperature							
		Arterial Blood Temperature							
		Cardioplegia temperature							
9	**Timer**	Timer should be provided for measuring total:							
		Bypass Time							
		Ischemia time							
		Elapsed Time for Cardioplegia							
		Total duration of Cardioplegia delivery							
10	**Alarm**	It should detect and display and give audio visual alarm for the following:							
		Over speed							
		Pump Jam							
		Belt Slip							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Occlusion							
		Arterial Pump should stop in case low blood level is sensed or air is detected.							
		Roller pump-head covers Required							
11	**Computer interface**	It should have a computer interface capability.							
12	**AUXILIARY POWER SYSTEM**	It should have battery backup to provide power to minimum ≥1 Hr							
13	**Others**								
		The unit should be provided with high intensive lamp and gas flow meter and blender for air and oxygen.							
		It should be provided with an instrument tray for holding standard instruments used for cardiopulmonary perfusion.							
		It should be provided with an attachable writing board and perfusionists to maintain perfusion records.							
		It should be provided with suitable poles and arms for mounting sensors and monitors.							
		It should follow international standard and safety requirements.							
		All standard accessories must be supplied.							
		All the above equipment shall be new and manufactured from virgin materials. All the requirements of the Supply shall be sourced from the original equipment manufacturer of the model quoted.							
		Trining for one engineer and one user in the country of machine factory							
14	**GUARANTEE**								
		The vendor should guarantee the service and spare support for 10 Years of the system including all accessories after 2 years of warranty.							
		Remote service facility should be provided for faster resolution of service issues.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15	**Essential requirement:**								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		Application software and interface connection Included.							
		• Service manual and operation manual {Hardcopy & Softcopy}							
16	**Delivery Time :**	Please Specify							
17	**Note:**	Bidders shall furnish technical compliance statement for the model quoted , details of manufacturer including deviations if any. Technical catalogue /data sheet shall also be furnished in support of technical compliance statement without fail.							
18	**LINE POWER, VAC**	100 - 240 V							
19	**Other specification**	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز التبريد والتدفئة					0				
NO	HEATER COOLER Unit				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
		The system must be FDA approved and CE marked							
4	**MARKET CLEARANCE FOR EITHER:**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology high quality							
5	**Safety**	The machine shuld be safe to use both for the operator and the patint the machine must comply with protection against leakage current, protection against electric shock class I							
6	**Used**	Use during cardiopulmonary bypass to regulate temperature of the patient's blood							
7	**Operating temperature Control**	5 - 45°C or better							
8	**Temperature measurement accuracy**	±0.2 - 0.3 °C							
9	**Storage temperature measuring range**	(- 12 °C to 65 °C)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10	**Heating system**	Electrical heaters							
11	**Compression cooling system**	Compression cooling system or better							
12	**Tank capacity**	from 12 to 25 liters or more							
13	**Circulation system**	Pressure pumps							
14	**Water Flow capacity, patient water circuit**	15 - 20 liters per minute							
15	**Water flow cardioplegia circuit**	7 – 10 liters per minute							
16	**Maximum pressure, patient water circuit**	1 bar - 2 bar							
17	**Water pressure in cardioplegia circuits**	0.65 – 1 bar							
18	**Monitor and display**	Color touch screen							
		Flow rates							
		Pressures							
		Temperature							
20	**Component**	Stainless steel cabinet and tank							
21	**Alarm**	Audio visual alarm for:							
		High low temperature							
		High low pressure							
		High low flow							
22	**Training**	Training of users in operation and basic maintenanc shall be provided. Advanced maintenance tasks required shall be documented.							
23	**Essential requirement:**								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		Application software and interface connection Included.							
		• Service manual and operation manual {Hardcopy & Softcopy}							
24	**Warranty**	2 years, including all spares and caliberation.							
25	**Electrical Requirement :**	100-230 VAC 50/60 Hz single phase							
26	**Other specification**	Please specify other specification							

الجمهورية اليمنية

اجهزة قسم جراحة الكبد والجهاز الهضمي (تخصصي)

HEPATIC SURGERY Department

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
اجهزة قسم العمليات									
Operation room department									
اجهزة قسم جراحة الكبد والجهاز الهضمي (تخصصي)									
HEPATIC Department									
مواصفات جهاز الجراحة الخاص بالكبد (هارمونيك)					0				
NO	Harmonic Scalpel (Ultrasonic Energy based Surgical System)				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
4		The system must be FDA approved and CE marked							
5	**MARKET CLEARANCE FOR EITHER:**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology high quality							
6	**Major Parameter :**								
		Ultrasonic generator with fixed frequency of 50 KHz with capable of incising tissue and providing homeostasis with minimal thermal injury							
		3 discreet audible tone settings possible to indicate generator status .							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Having 5mm instruments/probes/shears for both Open and laparoscopic surgeries							
		An option of reusable Hand Activation with bilateral switches to change power levels .							
		Connecting 2 footswitches for two surgeons to work simultaneously							
		Self-diagnostic mode to detect any problem with generator, footswitch, transducer or instruments							
		Graphical display (Touch) to enable surgeon/technicians to understand the problem with have a warning system for a worn out probe/shear/instrument with error codes for better diagnosis							
		Vibration range of 50-110 microns (micro meters,µm) for optimal cutting and coagulation							
		An option of using 5mm Laparoscopic/Open Shears							
		Integrated hand activation for better control							
		Shears of variable lengths for different surgeries- 4cm,9cm,14cm,17cm,23cm,36cm and 45 cm with having probes							
		Integrated hand activation and ability to adjust the lengths in order to facilitate better dissection in open surgeries.							
7	**Accessories :**	**(Must be quoted separately)**							
		• Footswitch and Cable-01no.							
		• Harmonic Hand Piece-01no.							
		• Harmonic Blue Hand Piece-01no.							
		• Torque lock blade wrench-02 nos.							
		• Test Tip-01no.							
		• Generator Cart -01no.							
		• Harmonic ACE- Ergonomic grip, Curved blade, 5mmshaft diameter, 36cm shaft length, compatible with-3 nos.							
		• Harmonic ACE Scissor grip, Curved blade, 5mmshaft diameter, 14cm shaft length, compatible with-3 nos.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		• Harmonic ACE Ergonomic grip, Curved blade, 5mmshaft diameter, 23cm shaft length, compatible with-3 nos.							
		• Harmonic Focus Scissor grip, Curved blade, compatible with-3 nos.							
		• Harmonic Wave Scissor grip, Straight blade, 8.5mmshaft diameter, 18cm shaft length, compatible with-3 nos.							
		• Harmonic Synergy Curved Blade Compatible with -3 nos.							
		• Combination Hook Blade Compatible with -3 nos.							
		• Harmonic Synergy Hook Blade Compatible with -3 nos.							
		• Laparoscopic Coagulating Shears/with Hand Controls -Pistol grip, Curved blade, 5mm shaft diameter, 36cm shaft length, compatible with-3 nos.							
		• Laparoscopic Ball Coagulator 5mmshaft diameter, 31cm shaft length, compatible with-3 nos.							
		• Laparoscopic Curved Blade 5mmshaft diameter, 32cm shaft length, compatible with-3 nos.							
		• Laparoscopic Dissecting Hook 5mmshaft diameter, 32cm shaft length, compatible with-3 nos.							
		• Coagulating Shears Scissor grip, Curved blade, 5mmshaft diameter, 14cm shaft length, compatible with-3 nos.							
		• Coagulating Shears Scissor grip, Curved blade, 5mmshaft diameter, 23cm shaft length, compatible with-3 nos.							
8	**Power Supply:**	110 - 220 V 50/60 Hz							
9	**OTHER SPECIFICATIONS**	(Please Mention)							
10	**Training**								
		Two Persons to be provided training at site for two weeks or at any center if needed.							
		Remote service facility should be provided for faster resolution of service issues.							
		Standard proposal of training for two in-house biomedical engineers /technicians as the principal Companies standards offers for these jobs. English or Arabic speaking.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11	**Guarantee**	The vendor should guarantee the service and spare support for 10 Years of the system and all accessories after 2 years of warranty							
12	**Warranty & CMC**								
		a. The system should have standard warranty for two years for all system, all accessories. Starting From date of Installation/ Commissioning/ training and acceptance certificate from the MOHP committee.							
		b. the max downtime/year should not exceed 10 working days, otherwise the supplier should pay for the downtime days 1% of the total contract amount of the stopped machine for each 10 days, and replace the machine with a new machine if the downtime/year exceed 30 working days in addition to the mentioned penalty.							
		c. The bidder should clarify the maintenance capabilities/benefits and copy of service team in the country certificates and authorizations from the Manufacturer.							
13	**Essential requirement:**								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		Application software and interface connection Included.							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		• Service manual and operation manual {Hardcopy & Softcopy}							
14	**Electrical Requirement :**	200-230 VAC 50/60 Hz single phase							
مواصفات جهاز الاستصفاء الكبدي					0				
NO	**LIVER DIALYSIS MACHINE**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
		The system must be FDA approved and CE marked							
4	**MARKET CLEARANCE FOR EITHER:**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology high quality							
5	**Operational Requirements**								
		Fully automated practice of a complete range of continuous renal replacement and fluid mangement therapies							
6	**General features**								
		S.C.U.F - Slow Continuous Ultra Filtration							
		C.V.V.H - Continuous Veno-Venous Hemofiltration							
		C.V.V.H.D - Continuous Veno-Venous Hemodialysis							
		C.V.V.H.D.F - Continuous Veno-Venous Hemodiaflltration							
		T.P.E - Thera utic Plasma Exchange							
		H.P. — Hemoperfusion							
		Sepsis treatment usin special membranes (name the special membrane)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Compatibility with MARS monitor for Liver dialysis							
6	**User friendly and has automated functions**								
		Large color TFT-LCD touch screen (10 — 12) inches							
		Smart software for easy operator guidance							
		Step -by -step instructions with graphical instructions on screen for easy setup							
		Self-testing of alarms and functions after priming and every I to 2 hours to ensure the patient's safety							
		Rapid and automatic priming procedure (within 5 - 7 minutes							
		For continuous and precise fluid balance management - dedicated (independent) weighin devices monitorin - at least four device :							
		Weighin device - Pre-Blood pump							
		Weighin device - Replacement pump							
		Weighin device - Dialysate pump							
		Weighin device - Effluent pump							
		Each weighing scale should be able to accommodate up to I IL of fluid at one time (total of 44 for four scale)							
		Recording of atients' treatment histo u to 80 — 90 hours							
		Events Storage (minimum of 450 — 500							
		Recording and patient safety :							
		Total filtrate volume							
		Replacement solution volume							
		Dialysate volume							
		Pre-blood solution volume							
		Elapsed time							
		Updated on treatment histo screen							
		Display of information on one screen :							
		Continuous information of all parameters							
		Graghical dis la of pressure monitoring							
		Should operate with a low extracorporeal blood volume (equal or less than 152ml, for pediatric 90-95 ml)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Built-in dosage calculator (tool to support operator on the dosage prescription and display dialysis dose delivered at end of therapy							
		Option for easy changeover from one modality to another without interrupting the treatment							
		Option for Regional Citrate Anticoagulation for all therapyies							
		Option for simultaneous delivery of Pre and Post filter replacement solution in CVVH and CVVHDF							
		Option for recirculation mode							
		Option to enable for Sepsis treatment with special compatible filter							
		Option to enable low weight compatible set for CRRT treatment of babies > 8 Kg wei ht							
		Option to changes syringe size							
		Option to upgrad software if any							
		Pre-connected filter together with the tubing set the choice of membrane of the filter							
7	**Technical Requirements**								
		Equipped with minimum of five 5 separate pumps :							
		Blood Pum							
		Dialysate Pump							
		Effluent pump							
		Replacement pump							
		Pre- blood infusion pump							
		Allows total circuit hemodilution with infusion oint very close to the patient access							
		PBP hemodilution can be set to a fixed ratio between the speed of blood pump & speed of PBP additional pump & monitorin required							
		Allows regional anticoagulation protocol							
		Equiped with four (4) independent weighin scales							
		Pre-Blood pump Scale							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Replacement Scale							
		Dialysate Scale							
		Effluent Scale							
		Equiped with five (5) independent pressure sensors							
		Pre Filter pressure sensor							
		Effluent pressure sensor							
		Blood access pressure sensor							
		Blood return pressure sensor							
		Fifth pressure sensor port for future therapy							
		Equipped with 2 pinch valves for the pre and post dilution capability using the same treatment set							
		For CVVHDF modalities: machine should have the flexibility to use lactate based dialysate solution and bicarbonate solution simultaneousl							
		Alarms (audio and visual) and safey system							
		Bag change information							
		Access pressure alarms							
		Filter clotting alarms							
		Return pressure alarms							
		Air detector alarm							
		Blood leak detector alarm							
		Bar code reader							
		Recogition of set							
		Automatic settin of the set parameters range							
		Deaeration chamber							
		Unique air management system							
		Low volume (5 to 7ml) air bubble trap with semi-automatic levelin							
		No air-blood interface							
		Discharger rring to minimize electrostatic interference on cardiac monitor							
		Equppied with the capabilities for connectivity and information technology							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Com uter interface which allows via modern connection for remote troubleshootin							
8	**Flow Rate**								
		Blood pump flow rate ranges between 10ml to 450ml/min with accuracy of ±10% of the set rate							
		Replacement solution flow rate ranges between 0 ml to 8000 ml/hr							
		Dialysate flow rate ranges between 0 ml to 8000 ml/hr							
		Pre-blood infusion pump flow rate between 0 ml to 8000 ml/hr							
		Filtrate or Effluent flow rate ranges between 0 ml to 10,000 ml/hr							
9	**Pressure monitoring**								
		Access line: (-) 250 mmH to (+ 300 to 350 mmH							
		Return line: (-) 50 mmH to (+) 300 to 350mmH							
		Pre filter line: (-) 50mmH to (+) 450 to 500 mmH							
		Effluent line: (-) 350 mmH to (+) 400 to 450 mmH							
10	**included**	**System should include (integrated) infusion pump for continuous or bolus anticoagulation**							
		Continuous delivey rate range :							
		0 or 0.1 to 5.0 ml/hrfor 10 ml syinge							
		0 or 0.5 to 5.0 ml/hr for 20 ml syinge							
		0 or 0.5 to 10.0 ml/hr for 30 ml syinge							
		0 or 2.0 to 20.0 ml/hr for 50 ml syinge							
		Bolus delive volume range :							
		0 or 0.5 ml to 5.0 ml for 10 ml and 20 ml syinge							
		0 or 1.0 to 5.0 ml for 30 ml syinge							
		0 or 2.0 to 9.9 ml for 50 ml syinge							
		On-site trainin on operation and simple maintenance of equipment							
11	**Power Supply:**	110 - 220 V 50/60 Hz							
12	**Training**								
		Two Persons to be provided training at site for two weeks or at any center if needed.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Remote service facility should be provided for faster resolution of service issues.							
		Standard proposal of training for two in-house biomedical engineers /technicians as the principal Companies standards offers for these jobs. English or Arabic speaking.							
13	**Guarantee**	The vendor should guarantee the service and spare support for 10 Years of the system and all accessories after 2 years of warranty							
14	**Warranty & CMC**								
		a. The system should have standard warranty for two years for all system, all accessories. Starting From date of Installation/ Commissioning/ training and acceptance certificate from the MOHP committee.							
		b. the max downtime/year should not exceed 10 working days, otherwise the supplier should pay for the downtime days 1% of the total contract amount of the stopped machine for each 10 days, and replace the machine with a new machine if the downtime/year exceed 30 working days in addition to the mentioned penalty.							
		c. The bidder should clarify the maintenance capabilities/benefits and copy of service team in the country certificates and authorizations from the Manufacturer.							
15	**Essential requirement:**								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
14		Application software and interface connection Included.							
		• Service manual and operation manual {Hardcopy & Softcopy}							
	Warranty	2 years, including all spares and caliberation.							
	Electrical Requirement :	200-230 VAC 50/60 Hz single phase							
	Delivery Time	(Please Specify)							
	Other specification	Please specify other specification							
مواصفات الراديوفريكونسي الخاص بالكبد					0				
NO	**RADIO FREQUENCY ABLATION**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	Required							
		The system must be FDA approved and CE marked							
4	**MARKET CLEARANCE FOR EITHER:**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology high quality							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Technical Specifications**	Adequate safety to operator, patients, attendants and other medical apparatus connected.							
		Device should have both the output frequencies- Monopolar and Bipolar.							
		Device should have output frequency: 4 MHz for Monopolar and 1.7 MHz for Bipolar.							
		Device should have a minimum output power of 90 W.							
		Device should have Cut (90W or above), blend (65 W or above), Coag(45 W or above), fulgurate(35 W or above) and bipolar (90 W or above) output waveforms.							
6	**Screen Display**	Device should have Digital Control Panel for easy operation and clear view of settings.							
		The equipment should have LCD color screen.							
		It should display graphical interface in Real-time, display impendence, temperature, time as well as voltage as separate numbers.							
		In case of error in the equipment , the screen should show origin of error in the exact location. Also if this error happens with the machine is in warranty period, a spare machine should be provided by the vendor at no extra cost till the repair is done							
7	**Tools**	Device should come with a dual frequency footswitch and cable.							
		Device should have an option of both reusable and disposables consumables.							
		Device should have Solid State Circuitry for dependable and consistent energy emission.							
		Device should have auto-cut facility.							
		Device should have safety indicators to provide visual and auditory alerts.							
		Device should have parameter recall for rapid set-up.							
		Device should have an audible alarm for neutral plate dislodgement.							
		Device should be able to produce very sharp and precise cutting, negligible lateral heat production, and adequate haemostasis.							
		Device should come with a foot-controlled handpiece.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Device should come with a handpiece clip.							
		Device should come with a three-button finger switch handpiece.							
		Device should be a quieter system, small, lightweight generator for easy portability.							
		Device should come with a reusable medical electrode kit.							
		Device should come with a reusable neutral plate that does not require skin contact.							
		Device should come with an instantly ready to use hand piece.							
		Device should have platform to use multiple electrodes, for various surgical procedures.							
		Device should be able to treat following indications –moles, verrucae vulgaris, rhinophyma, nevus, papilloma or flat warts, seborrheic keratosis, hemangioma, venous lake, benign lesions of scalp, soft fibroma, telangiectasia, keloids.							
8	**Standard Accessories**	Should include:							
		1. Neutral plates							
		2. Two sets of surgical electrodes (loops, balls, knives, pin, finewire, needle, sharp pointed electrodes, scalpel, coagulation ball). Loops should be round, oval, triangular and diamond shaped. Electrodes' proximal diameter should be 1.6 mm and 2.4 mm, to accommodate standard hand piece connection.							
		3. RF Surgipens							
		4. Bipolar forceps with cable.							
		5. Instruction manual							
		A smoke evacuator with stand alongwith the device will be preferrable.							
9	**Power Supply:**	110 - 220 V 50/60 Hz							
10	**OTHER SPECIFICATIONS**	(Please Mention)							
11	**Training**								
		Two Persons to be provided training at site for two weeks or at any center if needed.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Remote service facility should be provided for faster resolution of service issues.							
		Standard proposal of training for two in-house biomedical engineers /technicians as the principal Companies standards offers for these jobs. English or Arabic speaking.							
12	**Guarantee**	The vendor should guarantee the service and spare support for 10 Years of the system and all accessories after 2 years of warranty							
13	**Warranty & CMC**								
		a. The system should have standard warranty for two years for all system, all accessories. Starting From date of Installation/ Commissioning/ training and acceptance certificate from the MOHP committee.							
		b. the max downtime/year should not exceed 10 working days, otherwise the supplier should pay for the downtime days 1% of the total contract amount of the stopped machine for each 10 days, and replace the machine with a new machine if the downtime/year exceed 30 working days in addition to the mentioned penalty.							
		c. The bidder should clarify the maintenance capabilities/benefits and copy of service team in the country certificates and authorizations from the Manufacturer.							
14	**Essential requirement:**								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		Application software and interface connection Included.							
		• Service manual and operation manual {Hardcopy & Softcopy}							
15	**Warranty**	2 years, including all spares and caliberation.							
16	**Electrical Requirement :**	200-230 VAC 50/60 Hz single phase							
17	**Delivery Time**	(Please Specify)							
18	**Other specification**	Please specify other specification							
مواصفات أطقم وأدوات الجراحة العامة					0				
NO	**GENERAL SURGICAL SET**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**								
	FDA CLEARANCE	Required							
	CE MARK (MDD)	Required with							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
4	**Technical Specifications:**								
5	**Material:**	Stainless Steel							
6	**Reusable or Disposable:**	Reusable							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7	**Sterile or Non-Sterile:**	Non-Sterile							
8	**Latex-Free:**	Yes							
9	**Rust Prevention Procedure:**	Passivation							
10	**Ultrasonic Cleaned:**	Yes							
11	**Matt-Polished:**	Yes							
12	**Lubricate:**	Yes							
13	**Usage:**	Left Hand or Right Hand							
14	**Tests Performed:**	Boil Test, Performance Test, Shape Test							
15	**QC Passed:**	Yes							
	Each set contains the following:								
1		Bowl Lotion 250 mm	pcs	2					
2		Gallipot/Cup S/S 180 ml	pcs	2					
3		Gallipot/Cup S/S 250 ml	pcs	2					
4		Tray Kidney shape with Lid S/S 200 X 30 mm	pcs	2					
5		Tray Kidney shape with Lid S/S 300 X 50 mm	pcs	2					
6		Forceps artery Kocher COF BJ.S/S 180mm.	pcs	20					
7		Forceps Artery Spencer Wells CO Flat (bj).S/S 200 mm	pcs	15					
8		Forceps Dissecting Plain serrated jaws S/S 150 mm	pcs	6					
9		Forceps Dissecting Plain serrated jaws S/S 250 mm	pcs	1					
10		Forceps Dissecting narrow, serrated jaws S/S 200 mm	pcs	1					
11		Forceps Dissecting Lane's 2x3 teeth 180 mm	pcs	3					
12		Forceps Dissecting Waugh, fine serr.jaws 1x2 Tth 200 mm	pcs	1					
13		Forceps Tissue Allis fine 4 x 5 Teeth BJ.S/S 150 mm	pcs	4					
14		Forceps Towel Holding cross Action S/S 100mm	pcs	8					
15		Forceps Towel Moynihan, Double Teeth (bj) 190mm	pcs	4					
16		Forceps Sponge Holding Rampley BJ S/S 240 mm	pcs	5					
17		Handle size 3 for Scalple blades size 10-15	pcs	1					
18		Handle size 4 for Scalple blades size 20-24	pcs	1					
19		Needle Holder Kilner's 165 mm	pcs	1					
20		Needle Holder Mayo Hegar BJ.S/S 180mm	pcs	2					

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
21		Scissors Blunt Point Straight SJ. S/S 180mm	pcs	1					
22		Scissors Mayo’s CO Flat 200mm S/S	pcs	1					
23		Scissors Mayo’s Straight 200mm S/S	pcs	3					
24		Scissors McIndoe's CO Flat 190mm S/S	pcs	1					
25		Retr.Deaver #1-Blade 25mm, Length 305mm	pcs	1					
26		Retr.Deaver #5-Blade 75mm, Length 305mm	pcs	1					
27		Retr. Lange beck, H/H 26x64 Blade, 210 mm Long	pcs	2					
28		Retr. Morris Double-ended (52x38)&(52x64) mm	pcs	2					
29		Retr. Walton, malleable copper 13mm length 305mm	pcs	1					
30		Needle Aneurysm S/S . Small 146 mm	pcs	1					
31		Pin Safety Mayo, forceps holding, 120mm	pcs	4					
32		Suction Tube McIndoe	pcs	1					
33		Suction Tube Poole's S/S 225mm	pcs	1					
34		Sterilizing and storing case St. St. with filters 260x150x50 mm	pcs	2					
35		Wire Cutting, Tungsten .Carbide inserts 180mm.	pcs	1					
36		Product quality certificates: Valid US FDA / European CE certificate							
مواصفات أطقم جراحة الكبد					0				
NO	LIVER TRANSPLANTAION SET				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard								
	FDA CLEARANCE	Required							
	CE MARK (MDD)	Required with							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
	Technical Specifications:								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Material:	Stainless Steel							
	Reusable or Disposable:	Reusable							
	Sterile or Non-Sterile:	Non-Sterile							
	Latex-Free:	Yes							
	Rust Prevention Procedure:	Passivation							
	Ultrasonic Cleaned:	Yes							
	Matt-Polished:	Yes							
	Lubricate:	Yes							
	Usage:	Left Hand or Right Hand							
	Tests Performed:	Boil Test, Performance Test, Shape Test							
	QC Passed:	Yes							
	Each set contains the following:								
		Streamline Micro NH 20.5 cm 0.4 mm str w/c, round handle	**1**						
		Streamline Micro NH 20.5cm 0.8 mm str w/c, round handle	**1**						
		Streamline Micro NH 20.5cm 0.8 mm cvd w/c, round handle	**1**						
		Doyen Intestinal Clamp str. 24 cm	**1**						
		Tissue Forceps 19.5 cm 1.5 mm	**1**						
		Tissue Forceps 19.5 cm 2.0 mm	**1**						
		Tissue Forceps 24.0 cm 2.0 mm	**1**						
		Tissue Forceps 30.0 cm 2.0 mm	**1**						
		Tissue Forceps 15.0 cm 2.8 mm without step	**1**						
		Tissue Forceps 19.5 cm 2.8 mm without step	**1**						
		Tissue Forceps 24.0 cm 2.8 mm without step	**1**						
		Tissue Forceps 30.0 cm 2.8 mm without step	**1**						
		Standard Tissue Forceps 25 cm 1.8 mm	**1**						
		Wangensteen Forceps 15 cm	**1**						
		Wangensteen Forceps 23 cm	**1**						
		Micro-Atrauma Tissue Fcps 21 cm str. 1 mm	**1**						
		Micro Tissue Forceps 21 cm straight 0.4 mm	**1**						
		Micro Tissue Forceps 21 cm curved 0.4 mm	**1**						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Micro Tying Forceps 18 cm str. 0.8x6 mm	**1**						
		Micro Ring Forceps 18 cm str. 0.5x1.0 mm	**1**						
		Titanium Ring Forceps str. 23 cm 0.5x1.0 mm counter-balanced	**1**						
		Scalpel handle No. 3	**1**						
		Scalpel handle No. 7 L long	**1**						
		Heparin Flushing Needle IMA, 2.0 mm 4.5 c	**1**						
		Diethrich Micro Bulldog 5 cm 12 mm ang.	**2**						
		Diethrich Micro Bulldog 5 cm 16 mm ang.	**1**						
		DeBakey-Diethrich Bulldog 54 mm 20 mm	**2**						
		Glover Bulldog Clamp straight 5 cm	**1**						
		Glover Bulldog Clamp curved 5 cm	**1**						
		Titanium Micro Bulldog F/V 35 mm cvd.	**1**						
		Titanium Micro Bulldog F/A 35 mm cvd.	**1**						
		Vascular Dilator 19 cm 1.0 mm	**1**						
		Vascular Dilator 19 cm 1.5 mm	**1**						
		Ring-Bulldog Clamp ang. 12 cm	**2**						
		Ring-Bulldog Clamp S-cvd. 13 cm	**1**						
		Peripheral Vasc Clamp 26.5 cm cvd	**1**						
		Peripheral Vasc Clamp 26.5 cm cvd heavy pattern	**1**						
		Aortic Aneurysm Clamp cvd. 27 cm	**1**						
		Aortic Clamp cvd. 26.5 cm	**1**						
		Calne Liver Transplant Clamp 27 cm	**1**						
		Hongkong-Satinsky Liver Transplant Clamp 30/80 mm jaw, 30 cm	**1**						
		Hongkong-Satinsky Liver Transplant Clamp 10/90 mm jaw, 30.5 cm	**1**						
		Multi-Purpose Clamp ang. 16.5 cm slightly angled	**1**						
		Liver Transplant Clamp 6.5 cm jaw 18 cm	**1**						
		Liver Transplant Clamp 8 cm jaw 21 cm	**1**						
		Liver Transplant Clamp 9.5 cm jaw 25 cm	**1**						
		Potts Liver Transplant Clamp 25.5 cm jaw 55x42 mm	**1**						
		Potts Liver Transplant Clamp 26 cm jaw 60x52 mm	**1**						
		Potts Liver Transplant Clamp 27 cm jaw 70x62 mm	**1**						
		Potts Liver Transplant Clamp 27 cm jaw 70x71 mm	**1**						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Dardik Multi-Purpose Clamp ang. 30° 16.5 cm	**1**						
		Berry Sternal Wire Twister 18 cm	**1**						
		Mayo-Hegar Needle Holder 24 cm	**1**						
		Crile-Wood Needle Holder 18 cm	**1**						
		Crile-Wood Needle Holder 23 cm	**1**						
		Intracardiac Needle Holder 18 cm	**1**						
		Needle Holder 18 cm	**1**						
		Needle Holder 20 cm	**1**						
		Stratte Needle Holder 24 cm	**1**						
		Mini-Ryder Needle Holder 13 cm	**1**						
		Mini-Ryder Needle Holder 15 cm	**1**						
		Mini-Ryder Needle Holder 20 cm	**1**						
		Geister Vascular Needle Holder 18 cm	**1**						
		Titanium Needle Holder 12.5 cm	**1**						
		Wire Cutting Pliers 20 cm TC for wire max. 1.5 mm	**1**						
		Gemini (DeBakey-Mixter) Diss Fcps 18 cm	**1**						
		Meigs-Navratil Delicate Diss Fcps 18 cm	**1**						
		Meigs-Navratil Delicate Diss Fcps 22 cm	**1**						
		Meigs-Navratil Delicate Diss Fcps 25 cm	**1**						
		Jacobsen Del Diss Forceps 13 cm cvd.	**1**						
		Jacobsen Del Diss Forceps 19 cm ang.	**1**						
		Heiss Dissecting Forceps 20 cm slight cvd	**2**						
		Micro-Halstead-Mosquito Clamp 12.5 cm cvd	**2**						
		Halstead-Mosquito Clamp 12.5 cm curved	**1**						
		Adson Haemostat Fcps 19 cm curved	**4**						
		Roberts Dissect Fcps 22 cm str.	**1**						
		Mixter Diss Fcps 14 cm strong curve	**2**						
		Forceps extra fine 90Ø 18 cm	**1**						
		Mayo Scissors curved 23 cm	**1**						
		Metzenbaum Scissors curved 18cm	**1**						
		Nelson-Metzenbaum Scissors cvd. 23 cm	**1**						
		Toennis Adson Fino Scrs cvd. 17.5 cm	**1**						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Scissor 24 cm curved	1						
		Scissors 16 cm S-cvd 45°	1						
		Micro-Hegemann Scissors 18 cm 45° nano-tip, Super Cut	1						
		Mayo Operating Scissors 14.5 cm straight	1						
		Toennis-Adson Fino Scissors 17.5 cm cvd.	1						
		Metzenbaum Diss Scissors 18 cm curved Super Cut	1						
		Metzenbaum Diss Scissors 18 cm curved	1						
		Metzenbaum Diss Scissors 23 cm curved	1						
		Metzenbaum-Fino Scissors 20 cm curved Super Cut	1						
		Metzenbaum-Fino Scissors 20 cm curved	1						
		Metzenbaum-Fino Scissors 23 cm curved	1						
		Metzenbaum-Fino Scissors 18 cm S-cvd.	1						
		Penfield Dura Dissector Fig. 4 20.5 cm	1						
		Freer-Davis Elevator 20 cm	1						
		Mini-Langenbeck Retractor 16 cm 20x6 mm	1						
		Langenbeck Retractor 21 cm 40x11 mm	1						
		Cushing Artery Hook 19cm Fig. 2, 7 mm	1						
		Universal Retractor System complete set	1						
		Retractor Frame Assembly	1						
		Table Clamp with vertical Post 25 mm	1						
		Post Coupling	1						
		Retractor Blade Clamp (slide-on-version)	1						
		Retractor Blade Clamp (snap-on version)	1						
		Balfour Blade, 6.5x7.5 cm movable	1						
		Harrington Blade, Standard movable	1						
		Harrington Blade, 9x20 cm	1						
		Malleable Blade, 20x7.5 cm	1						
		Malleable Blade, 15x5 cm	1						
		Malleable Blade, 7.5x25 cm	1						
		Malleable Blade, 10x30 cm	1						
		Kelly Blade, 5x6.5 cm	1						
		Kelly Blade, 5x10 cm	1						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Kelly Blade, 6.5x25 cm	1						
		Joeïs Hoe Blade, 9x17.5 cm	1						
		Fence Blade, 10x18 cm	1						
		Clamp Applying Forceps Fig. 1-2 without catch	1						
		Clamp Applying Forceps Fig. 3-4 without catch	1						
		Plain Single Clamps #2 0.6-1.4 mm (pair)	1						
		Plain Single Clamps #3 1.0-2.2 mm (pair)	1						
		Plain Single Clamps #3 1.0-2.2 mm (pair)	1						
		Plain Double Clamp #2 0.6-1.4 mm	1						
		Plain Double Clamp #3 1.0-2.2	1						
		Dissecting Scissors long 15 cm cvd. round handle	1						
		Radialis Artery Scissors 18 cm 60° del. with pin box lock, round handle	1						
		Product quality certificates: Valid US FDA / European CE certificate							
مواصفات أطقم جراحة وزراعة الكبد					0				
NO	LIVER TRANSPLANTAION SET				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard								
	FDA CLEARANCE	Required							
	CE MARK (MDD)	Required with							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
	Technical Specifications:								
	Material:	Stainless Steel							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Reusable or Disposable:	Reusable							
	Sterile or Non-Sterile:	Non-Sterile							
	Latex-Free:	Yes							
	Rust Prevention Procedure:	Passivation							
	Ultrasonic Cleaned:	Yes							
	Matt-Polished:	Yes							
	Lubricate:	Yes							
	Usage:	Left Hand or Right Hand							
	Tests Performed:	Boil Test, Performance Test, Shape Test							
	QC Passed:	Yes							
	Each set contains the following:								
		Streamline Micro NH 20.5 cm 0.4 mm str w/c, round handle	**1**						
		Streamline Micro NH 20.5cm 0.8 mm str w/c, round handle	**1**						
		Streamline Micro NH 20.5cm 0.8 mm cvd w/c, round handle	**1**						
		Doyen Intestinal Clamp str. 24 cm	**1**						
		Tissue Forceps 19.5 cm 1.5 mm	**1**						
		Tissue Forceps 19.5 cm 2.0 mm	**1**						
		Tissue Forceps 24.0 cm 2.0 mm	**1**						
		Tissue Forceps 30.0 cm 2.0 mm	**1**						
		Tissue Forceps 15.0 cm 2.8 mm without step	**1**						
		Tissue Forceps 19.5 cm 2.8 mm without step	**1**						
		Tissue Forceps 24.0 cm 2.8 mm without step	**1**						
		Tissue Forceps 30.0 cm 2.8 mm without step	**1**						
		Standard Tissue Forceps 25 cm 1.8 mm	**1**						
		Wangensteen Forceps 15 cm	**1**						
		Wangensteen Forceps 23 cm	**1**						
		Micro-Atrauma Tissue Fcps 21 cm str. 1 mm	**1**						
		Micro Tissue Forceps 21 cm straight 0.4 mm	**1**						
		Micro Tissue Forceps 21 cm curved 0.4 mm	**1**						
		Micro Tying Forceps 18 cm str. 0.8x6 mm	**1**						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Micro Ring Forceps 18 cm str. 0.5x1.0 mm	**1**						
		Titanium Ring Forceps str. 23 cm 0.5x1.0 mm counter-balanced	**1**						
		Scalpel handle No. 3	**1**						
		Scalpel handle No. 7 L long	**1**						
		Heparin Flushing Needle IMA, 2.0 mm 4.5 c	**1**						
		Diethrich Micro Bulldog 5 cm 12 mm ang.	**2**						
		Diethrich Micro Bulldog 5 cm 16 mm ang.	**1**						
		DeBakey-Diethrich Bulldog 54 mm 20 mm	**2**						
		Glover Bulldog Clamp straight 5 cm	**1**						
		Glover Bulldog Clamp curved 5 cm	**1**						
		Titanium Micro Bulldog F/V 35 mm cvd.	**1**						
		Titanium Micro Bulldog F/A 35 mm cvd.	**1**						
		Vascular Dilator 19 cm 1.0 mm	**1**						
		Vascular Dilator 19 cm 1.5 mm	**1**						
		Ring-Bulldog Clamp ang. 12 cm	**2**						
		Ring-Bulldog Clamp S-cvd. 13 cm	**1**						
		Peripheral Vasc Clamp 26.5 cm cvd	**1**						
		Peripheral Vasc Clamp 26.5 cm cvd heavy pattern	**1**						
		Aortic Aneurysm Clamp cvd. 27 cm	**1**						
		Aortic Clamp cvd. 26.5 cm	**1**						
		Calne Liver Transplant Clamp 27 cm	**1**						
		Hongkong-Satinsky Liver Transplant Clamp 30/80 mm jaw, 30 cm	**1**						
		Hongkong-Satinsky Liver Transplant Clamp 10/90 mm jaw, 30.5 cm	**1**						
		Multi-Purpose Clamp ang. 16.5 cm slightly angled	**1**						
		Liver Transplant Clamp 6.5 cm jaw 18 cm	**1**						
		Liver Transplant Clamp 8 cm jaw 21 cm	**1**						
		Liver Transplant Clamp 9.5 cm jaw 25 cm	**1**						
		Potts Liver Transplant Clamp 25.5 cm jaw 55x42 mm	**1**						
		Potts Liver Transplant Clamp 26 cm jaw 60x52 mm	**1**						
		Potts Liver Transplant Clamp 27 cm jaw 70x62 mm	**1**						
		Potts Liver Transplant Clamp 27 cm jaw 70x71 mm	**1**						
		Dardik Multi-Purpose Clamp ang. 30° 16.5 cm	**1**						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Berry Sternal Wire Twister 18 cm	**1**						
		Mayo-Hegar Needle Holder 24 cm	**1**						
		Crile-Wood Needle Holder 18 cm	**1**						
		Crile-Wood Needle Holder 23 cm	**1**						
		Intracardiac Needle Holder 18 cm	**1**						
		Needle Holder 18 cm	**1**						
		Needle Holder 20 cm	**1**						
		Stratte Needle Holder 24 cm	**1**						
		Mini-Ryder Needle Holder 13 cm	**1**						
		Mini-Ryder Needle Holder 15 cm	**1**						
		Mini-Ryder Needle Holder 20 cm	**1**						
		Geister Vascular Needle Holder 18 cm	**1**						
		Titanium Needle Holder 12.5 cm	**1**						
		Wire Cutting Pliers 20 cm TC for wire max. 1.5 mm	**1**						
		Gemini (DeBakey-Mixter) Diss Fcps 18 cm	**1**						
		Meigs-Navratil Delicate Diss Fcps 18 cm	**1**						
		Meigs-Navratil Delicate Diss Fcps 22 cm	**1**						
		Meigs-Navratil Delicate Diss Fcps 25 cm	**1**						
		Jacobsen Del Diss Forceps 13 cm cvd.	**1**						
		Jacobsen Del Diss Forceps 19 cm ang.	**1**						
		Heiss Dissecting Forceps 20 cm slight cvd	**2**						
		Micro-Halstead-Mosquito Clamp 12.5 cm cvd	**2**						
		Halstead-Mosquito Clamp 12.5 cm curved	**1**						
		Adson Haemostat Fcps 19 cm curved	**4**						
		Roberts Dissect Fcps 22 cm str.	**1**						
		Mixter Diss Fcps 14 cm strong curve	**2**						
		Forceps extra fine 90Ø 18 cm	**1**						
		Mayo Scissors curved 23 cm	**1**						
		Metzenbaum Scissors curved 18cm	**1**						
		Nelson-Metzenbaum Scissors cvd. 23 cm	**1**						
		Toennis Adson Fino Scrs cvd. 17.5 cm	**1**						
		Scissor 24 cm curved	**1**						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Scissors 16 cm S-cvd 45°	1						
		Micro-Hegemann Scissors 18 cm 45° nano-tip, Super Cut	1						
		Mayo Operating Scissors 14.5 cm straight	1						
		Toennis-Adson Fino Scissors 17.5 cm cvd.	1						
		Metzenbaum Diss Scissors 18 cm curved Super Cut	1						
		Metzenbaum Diss Scissors 18 cm curved	1						
		Metzenbaum Diss Scissors 23 cm curved	1						
		Metzenbaum-Fino Scissors 20 cm curved Super Cut	1						
		Metzenbaum-Fino Scissors 20 cm curved	1						
		Metzenbaum-Fino Scissors 23 cm curved	1						
		Metzenbaum-Fino Scissors 18 cm S-cvd.	1						
		Penfield Dura Dissector Fig. 4 20.5 cm	1						
		Freer-Davis Elevator 20 cm	1						
		Mini-Langenbeck Retractor 16 cm 20x6 mm	1						
		Langenbeck Retractor 21 cm 40x11 mm	1						
		Cushing Artery Hook 19cm Fig. 2, 7 mm	1						
		Universal Retractor System complete set	1						
		Retractor Frame Assembly	1						
		Table Clamp with vertical Post 25 mm	1						
		Post Coupling	1						
		Retractor Blade Clamp (slide-on-version)	1						
		Retractor Blade Clamp (snap-on version)	1						
		Balfour Blade, 6.5x7.5 cm movable	1						
		Harrington Blade, Standard movable	1						
		Harrington Blade, 9x20 cm	1						
		Malleable Blade, 20x7.5 cm	1						
		Malleable Blade, 15x5 cm	1						
		Malleable Blade, 7.5x25 cm	1						
		Malleable Blade, 10x30 cm	1						
		Kelly Blade, 5x6.5 cm	1						
		Kelly Blade, 5x10 cm	1						
		Kelly Blade, 6.5x25 cm	1						

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Joeïs Hoe Blade, 9x17.5 cm	1						
		Fence Blade, 10x18 cm	1						
		Clamp Applying Forceps Fig. 1-2 without catch	1						
		Clamp Applying Forceps Fig. 3-4 without catch	1						
		Plain Single Clamps #2 0.6-1.4 mm (pair)	1						
		Plain Single Clamps #3 1.0-2.2 mm (pair)	1						
		Plain Single Clamps #3 1.0-2.2 mm (pair)	1						
		Plain Double Clamp #2 0.6-1.4 mm	1						
		Plain Double Clamp #3 1.0-2.2	1						
		Dissecting Scissors long 15 cm cvd. round handle	1						
		Radialis Artery Scissors 18 cm 60° del. with pin box lock, round handle	1						
		Product quality certificates: Valid US FDA / European CE certificate							
مواصفات جهاز الفحص الجزيئي (بي سي ار)					0				
NO	Real time PCR system				0				
	Standard	Requirements							
HEPATIC Equipment									
NO	Real time PCR system								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
		The system must be FDA approved and CE marked							
4	**MARKET CLEARANCE FOR EITHER:**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology high quality							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Description of Function**	System should be 96-well Peltier based RTPCR Machine or better. Should have option to upgrade/change hardware in future.							
6	**Technical Specifications**	Should offer good reproducibility with minimal well-to-well variation.							
		The system must have Touch Screen standalone mode of operation as well as computer based system control, operation, analysis, net-working of multiple system and a USB port for data export.							
		The system should be provided with at least 5" - 7" LED colors or large							
		Fully compatible with all dyes (Please specify)							
		The system should come along with High Resolution Melting Curve Analysis Software.							
		Reaction mixture volume 10-up to 60 µl for 96 well plate.							
		Temperature range between 0°C to 100°C.(accuracy ± 0.25°C)							
		Ramp rate should be not more than 6.5 ºC/sec							
		Average ramp rate : 3.6 ºC/sec or less							
		Range of excitation/emission wavelengths nm : should be in the range of 450–730							
		Scan Time: 10 sec or less							
		PCR tests in separate tubes, strips and plates with compatible PCR Tubes (automatically detect size)							
		The instrument should be supplied with software that is designed to collect and analyze the fluorescence data for the applications of absolute quantification, relative quantification, presence/absence assays, and allelic discrimination/SNP (Single Nucleotide Polymorphism) detection.							
		Analysis software supplied with the instrument should be most recent version							
		The instrument software should have feature to fully control the instrument opening and closin lid and analyze instrument’s data from a remote computer							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
8	**Desktop Computer**	The instrument should be provided along with desktop computer (top of the range system with most reliable brand value at the time of supply) having at least following features- P7 quadcore processor, 1 TB hard disk, 8GB RAM, 24 inch LED monitor and 8 GB graphics card with original Windows and Linux operating systems.							
9	**Should be supplied with**	2 KVA online UPS with atleast one hour back up.							
		96 well plates fixed on the system							
10	**Power Supply:**	110 - 220 V 50/60 Hz							
11	**OTHER SPECIFICATIONS**	(Please Mention)							
12	**Training**	Two Persons to be provided training at site for two weeks or at any center if needed.							
		Remote service facility should be provided for faster resolution of service issues.							
		Standard proposal of training for two in-house biomedical engineers /technicians as the principal Companies standards offers for these jobs. English or Arabic speaking.							
13	**Guarantee**	The vendor should guarantee the service and spare support for 10 Years of the system and all accessories after 2 years of warranty							
14	**Warranty & CMC**	a. The system should have standard warranty for two years for all system, all accessories. Starting From date of Installation/ Commissioning/ training and acceptance certificate from the MOHP committee.							
		b. the max downtime/year should not exceed 10 working days, otherwise the supplier should pay for the downtime days 1% of the total contract amount of the stopped machine for each 10 days, and replace the machine with a new machine if the downtime/year exceed 30 working days in addition to the mentioned penalty.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		c. The bidder should clarify the maintenance capabilities/benefits and copy of service team in the country certificates and authorizations from the Manufacturer.							
15	**The following documents should be attached with the offer :**	Required							
		The offer should be accompanied by Original data sheet of the product.							
		Spare Parts with Code NO.							
		Refurbished Units will not be accepted.							
		Incomplete data sheets and offers which are speculative will be rejected.							
		Turnkey offer – includes total Civil works with false roofing, Electrical work and necessary air conditioning.							
		Operation manual & service manual with circuit diagram should be provided during the supply of the equipment.							
		Product quality certificates: Valid US FDA / European CE certificate of the offered model must be submitted with the offer.							
		Mention the number (with addresses and phone numbers) of installations of quoted units in Yemen							
16	**Delivery Time**	(Please Specify)							
مواصفات جهاز فحص المطابقة (الهلا تيبينق)					0				
NO	**HLA TYPING MACHINE**				0				
	Standard	**Requirements**							
HEPATIC Equipment									
NO	**HLA TYPING MACHINE**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3	**FDA Approved & CE**	**Required**							
		The system must be FDA approved and CE marked							
4	**MARKET**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER:							
		The machine shuld be of latest model and must have lattest technology							
2	**Technical Specifications**	HLA typing system (SSO- machine for automated HLA typing by reverse SSO, Gel apparatus and accessories for SSP method)							
		SSO- machine for automated HLA typing by reverse SSO							
		Test principle: miniature reverse SSOP.							
		Instrument type: standalone bench top, plug & play instrument.							
		Micro assay: Fully automated system capable of processing from amplicon to result.							
		Touch screen: To guide the users through all the step of processing.							
		Processing: Robotic Arm Processing without any manual intervention during the assay.							
		Processing Capability: 1 to 96 tests per run.							
		Robotic arm Probe: Robotic arms should have at least 4 probes to multiple liquid handling							
		Processing time: typically, 2 Hrs. 30mins for 96 samples, 1 Hr 15 mins for 4 samples.							
		Volumes: 50µ to 300µl.							
		Data Capture: should have integrated CCD camera to capture the data.							
		Dispensing Mode: peristatic pump with accuracy of +0/-10%.							
		Temperature Control: peltier or similar, should be software controlled.							
3	**Software:**	Software should be provided along with the instrument for automatic interpretation and review of result.							
		The software should manage database, sample management, workflow, sample tracking, interpretation and typing reports.							
4	**Reagents:**								
		All reagents and consumables necessary for effective working of equipment should be supplied							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Should supply kits, reagents and consumables including pipette tips and plate for minimum of 96 test for renal panel (HLA-A, B and DRBI) HLA typing.							
5	**Reagents to be supplied:**	HLA-A, B and DR- kits with PCR Mix kit, contamination control and necessary reagents.							
		Allkits should have internal control for all the wells at 1070bp.							
		Kit should be compatible with software supplied.							
		Kit should come with validated TAQ Polymerase.							
6	**Accessories**	Computer: Should come along with a branded desktop PC for data storage and software.							
		UPS system: Should supply suitable UPS system with minimum backup of 1 Hr.							
		Gel tray: should be of minimum 200x200mm, UV transparent.							
		Should supply- casting dams(2 pcs), comb (20 slots, 1.0mm), loading guides, platform, cable set.							
		Software; Suitable software should be supplies for analysis of the SSP data.							
7	**Power Supply:**	110 - 220 V 50/60 Hz							
8	**OTHER SPECIFICATIONS**	(Please Mention)							
9	**Training**	Two Persons to be provided training at site for two weeks or at any center if needed.							
		Remote service facility should be provided for faster resolution of service issues.							
		Standard proposal of training for two in-house biomedical engineers /technicians as the principal Companies standards offers for these jobs. English or Arabic speaking.							
10	**Guarantee**	The vendor should guarantee the service and spare support for 10 Years of the system and all accessories after 2 years of warranty							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11	**Warranty & CMC**	a. The system should have standard warranty for two years for all system, all accessories. Starting From date of Installation/ Commissioning/ training and acceptance certificate from the MOHP committee.							
		b. the max downtime/year should not exceed 10 working days, otherwise the supplier should pay for the downtime days 1% of the total contract amount of the stopped machine for each 10 days, and replace the machine with a new machine if the downtime/year exceed 30 working days in addition to the mentioned penalty.							
		c. The bidder should clarify the maintenance capabilities/benefits and copy of service team in the country certificates and authorizations from the Manufacturer.							
12	**The following documents should be attached with the offer :**	Required							
		The offer should be accompanied by Original data sheet of the product.							
		Spare Parts with Code NO.							
		Refurbished Units will not be accepted.							
		Incomplete data sheets and offers which are speculative will be rejected.							
		Turnkey offer – includes total Civil works with false roofing, Electrical work and necessary air conditioning.							
		Operation manual & service manual with circuit diagram should be provided during the supply of the equipment.							
		Product quality certificates: Valid US FDA / European CE certificate of the offered model must be submitted with the offer.							
		Mention the number (with addresses and phone numbers) of installations of quoted units in Yemen							
13	**Delivery Time**	(Please Specify)							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Reagents for HLA typing unit								
1	**HISTO TYPE ABDR-SSP**	5 kits							
2	**Extraction DNA kit (spin column method)**	3 kits							
3	**10X TBE electrophoresis buffer**	bottle 5Liter							
4	**Ethidium Bromide Solution, 10 mg/mL**	3 vials							
5	**RPMI 1640**	20 bottles 1ooml							
6	**Complement**	20 vial							
7	**FluoroQuench Acridine Orange/Ethidium Bromide**	2 bottle							

اجهزة قسم العيون

OPHTHALMIC Department

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم االعيون							
		OPHTHALMIC Department							
		مواصفات جهاز ماسح العين نوع اية وبي			0				
NO		Ultrasound A/B scan			0				
	Standard	Requirements							
1	**Complete with:-**	Top quality machine, Safety, Ease of Use, HR (High-Resolution)							
2	**Manufacturer**	Please specify manufacturer and country of origin							
3	**Model number**	Please specify model number of the offered equipment							
4	**FDA Approved & CE Marked (MDD)**	Required				Required			
		The system must be FDA approved and CE marked							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology							
5	**Composition:**								
		Main unit							
		A scan probe							
		B scan probe							
		Not less than 9 inch screen							
		Black and White Video Printer							
		Gel for ultrasound							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
6	**B-Scan Mode**								
		Frequency: 10 MHz							
		Axial resolution: 0.12 mm							
		Lateral resolution: 0.3 mm							
		Scanning angle: 50o							
		Depth: 40-60 mm							
		Cross vector: transfer to biometry							
		Post processing:							
		Caliper							
		Annotation							
		Commentary							
7	**A- Scan Mode**								
		Frequency: 11 MHz							
		Axial resolution: 0.12 mm							
		Depth: 60 mm							
		Point on X axis: 512							
		Level on Y axis: 256							
		Storage: 20 images , 10 per eye							
8	**Measurements**	Anterior chamber-Lens-Vitreous- Total length average and standards deviation.							
9	**Velocities:**	Adjustable for each segment							
10	**Freeze frame:**	Manual or automatic with built-in pattern recognition (phakic, aphakic and pseudo-phakic).							
11	**Display**	Colour touch screen							
12	**Essential requirement:**								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		Application software and interface connection Included.							
		• Service manual and operation manual {Hardcopy & Softcopy}							
13	**Warranty**	2 years, including all spares and caliberation.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
14	**UPS**	Online UPS shall be Provided							
15	**Electrical Requirement :**	100-230 VAC 50/60 Hz single phase							
16	**Other specification**	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز التصوير الخماسي للعين					0				
NO	Pentacam				0				
	Standard	**Requirements**							
	Complete with:-	Top quality machine, Safety, Ease of Use, HR (High-Resolution)							
	Manufacturer	Please specify manufacturer and country of origin							
	Model number	Please specify model number of the offered equipment							
	FDA Approved & CE Marked (MDD)	**Required**							
		The system must be FDA approved and CE marked							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology							
		The machine shuld be safe to use both for the operator and the patint the machine must comply with protection against leakage current, protection against electric shock class I							
	Resolution	High-Resolution Pentacam							
	software & specification								
		PNS and 3D cataract analysis							
		Contact lens fitting							
		Belin/Ambrosio Enhanced Ectasia							
		3D pIOL simulation software including aging prediction							
		full DICOM compatible							
		Holladay Report and Holladay EKR Detail Report							
		Corneal Wavefront Analysis and Anterior Segment Tomography							
		3D Anterior Chamber Analysis							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Topography Maps of the Anterior and Posterior Corneal Surface							
		Pachymetry Maps, Cornea, Glaucoma screening, Cataract and Cataract refractive surgery							
		Rotating camera, digital images of entire cornea (limbus to limbus) 50 different cocentrric positians producing up to 138,000 measring points, single image, complete 360 scanning mode for complete anterir eye segment							
		scanning mode up to 100 images including :- pentacam measring head on XYZ movable base - head and chin rest - windows TB based software, - one software license for asperal werking place							
	another Application	Specified							
	Camera								
	digital	digital CCD camera							
	Light source	blue LEDs (475 nm UV-free)							
	Processor	DSP with 400 mil. operations/s							
	Speed	70-120 images in 1 second							
	PC requirements								
	Operating System	Microsoft Windows Professional, VGA graphic card 1024 x 768 true colour							
	RAM	8 GB							
	Frequency	16 GHz							
	archive Media	DVD/CD/USB							
	hard disk capacity	1 TB SSD							
	Accessories	(Contains the Accessories necessary to run the machine - Network printer, sliding keyboard shelf, network isolator, printer)							
	The following documents should be recuired								
		Should provide 2 sets(hard copy and soft copy) of:							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		1. User, technical and maintenance manuals should be supplied in english language along with machine diagrams							
		2. List of equipment and procedures required for local calibration and routine maintenance							
		3. Instructions for assembly, Service manual, operation manual {Hardcopy & Softcopy} in English							
		4. Advanced maintenance tasks documntation							
		5. Certificate of calibration and inspection							
		6. spear part lest with code NO							
	Maintenance	To need less maintenance free Maintenance service with free spare part guarantee for 2 years, Instructions for assembly, Service manual, operation manual {Hardcopy & Softcopy} in English							
	Power Supply & UPS	(100 - 240 V AC _+ 10 % 50/60 Hz) (power cable Compatible with the Hospital electric outlet, plug) (UPS for Unit) (dust cover)							
	spare part guarantee for 10 years	(Ensure the provision of spare part guarantee for a period of ten (10) years from the date of supply device)							
	Complies with	Electrical Safety, Ophthalmic instruments - Fundamental, requirements and test methods, Optical radiation hazard							
	Training of the operators and bio medical engineer	(Training for the one bio medical engineer and one operators in the country of the origin)							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز ميكروسكوب عمليات العيون					0				
NO	Surgical microscope				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
4	**Design & quality**	Mobile, heavy duty and high quality							
5	**Mounting**	Floor mounted with lockable castor wheels							
6	**Applications:**								
6.1		Ophthalmology							
7	**Adapters required**	Required							
8	**Focal length, mm**	Multiple and variable preferred							
9	**Configuration**	Configuration compatible for all Applications							
10	**Diopter adjustment range, mm**	Wide range use for all Applications, Adjustable							
11	**Microscope:**								
11.1	**Eyepiece power**	≥10x; multiple choices preferred							
11.2	**Interpupillary distance, mm**	Adjustable							
11.3	**Magnification:**								
11.3-1	**Automatic/manual adjustment**	Automatic preferred							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11.3-2	**Number of steps**	Zoom; multiple and variable preferred							
11.3-3	**Total range**	Wide range use for all Applications, Adjustable							
11.4	**FOV diameter, mm**	Please specify FOV diameter, mm							
11.5	**Focusing, type**	Manual, power							
11.5-1	**Range, mm**	Facility preference							
11.5-2	**Speed, mm/sec**	Adjustable and Variable preferred							
11.6	**Controls**	Hand and foot preferred							
12	**Custom sterile cover**	Required							
13	**Illumination System:**								
13.1	**Light source**	LED							
13.2	**Field diameter, mm**	Please specify Field diameter							
13.3	**Emergency backup**	Required							
13.4	**Filters:**								
13.4-1	**Color**	yellow filter, cobalt, blue , red free							
13.4-2	**Heat absorbing**	Preferred							
13.4-3	**UV filter**	Preferred							
13.4-4	**capability to add other filters**	Preferred							
14	**Displat type**	Integrated video and still image capture preferred, adaptors for separate cameras preferred							
15	**Imaging**								
15.1	**Infrared (IR)**	Preferred							
15.2	**Blue, wavelength**	Preferred							
15.3	**Yellow, wavelength**	Preferred							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15.4	**Intraoperative fluorescence**	Preferred							
16	**Floor stand**								
16.1	**Max height, cm (in)**	Facility preference							
16.2	**Arm extension, cm (in)**	Facility preference							
16.3	**Vertical range, cm (in)**	Facility preference							
16.4	**Arm extension drift lock**	Please specify							
16.5	**Base size, cm (in)**	Please specify							
17	**CASTERS**	Four casters							
17.1	**Number locking**	≥2							
18	**Accessories**								
18.1	**Coaxial scopes**	Preferred							
18.2	**Twin scopes option**	Preferred							
18.3	**X/Y-coordinate arm**	Preferred							
18.4	**Spare LED bulbs**	4							
18.5	**Fuses**	6							
18.6	**Sterilisable caps for microscope handles**	4 sets							
18.7	**Appropriate UPS backup**	1							
19	**Certification from the manufacturer:**								

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
19.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
19.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
19.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
19.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
19.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
19.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
19.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
19.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
21	**Maintenance:**								
21.1		2 years free maintenace.							
21.2		Service manual operation manual {Hardcopy & Softcopy}							
21.4		spare parts list with code NO							
23	**Power supply**	100 to 240 V ~ ±10%, 50 Hz							
24	**Other specification**	Please specify.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز ازالة المياه البيضاء من العين					0				
NO	PHACO EMULSIFICATION UNIT				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
4	**OPERATIONAL MODES:**								
		System should have following operation modes: Irrigation, Ultrasound, Irrigation/Aspiration (I/A) system, Diathermy and Vitrectomy							
5	**ULTRA SOUND SYSTEM**								
		Hand Piece type: Piezoelectric, made up of Titanium.							
		Frequency: 25-80 kHz.							
		It should be autoclavable.							
		US power should have continuous, pulse and burst mode.							
		Ultrasound pulse rate 1-14 pulses/sec							
6	**IRRIGATION/ASPIRATION (I/A)SYSTEM:**								
		System should have dual pump (Peristaltic and Venturi) user can switch between the two pumps during surgery with Max. Vacuum (peristaltic: 500 mmHg) with 1 mmHg pump increment.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes	
		Reflux method: Gravity / Pump reversal.								
		Tubing shall be re usable.								
		I/A Hand pieces shall be autoclavable with port diameter of 0.2-0.5 mm.								
		Collection container size shall be 1-60 cc.								
7	**ANTERIOR VITRECTOMY:**									
		Guillotine type hand piece with variable speed shall be preferred.								
		Hand piece shall be re usable and autoclavable.								
		Control Panel or linear cut rate control by foot pedal.								
8	**Other specification**									
		Multifunctional foot switch.								
		Facilities for Bipolar Coagulation, Phaco-emulsification, Aspiration and Anterior vitrectomy.								
		Multiple programmability								
		Phacoemulsification:								
		Micro flow tip								
		Auto priming, auto fluidic and auto tuning								
		Bipolar Coagulation: 2 to 6 watts; Foot controlled								
		Aspiration : 0-500 mmHg linear vacuum								
		Anterior Vitrectomy : 30-600 cuts/min								
		Multifunctional foot pedal with a reflux switch								
		Ability to drive a guillotine cutter for anterior vitrectomy upto 1500cpm.								
		Should have voice confirmation during mode changing.								
		Facility of overlay parameters and names of surgeon while recording of cases.								

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9	**Certification from the manufacturer:**								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
10	**Maintenance:**								
		Service manual & operation manual {Hardcopy & Softcopy}							
		application software and interface connection Included.							
		spare parts list with code NO							
11	**Power supplay**	100 to 240 V ~ ±10%, 50/60 Hz Single phase							
12	**Other specification**	Please specify.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
جهاز معالجة وتصحيح النضر					0				
NO	LAISK (EXCIMER LASER)				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	**Required**							
		The system must be FDA approved and CE marked							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology							
		The machine shuld be safe to use both for the operator and the patint the machine must comply with protection against leakage current, protection against electric shock class I							
4	**Design**								
4.1	**Quality**	High quality							
4.2	Environmental factors								
		The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%							
		The unit shall be capable of operating in ambient temperature of -10 to +45 deg C							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Operational Requirements**								
5.1	Surgical microscope	pico with integrated HD video camera							
5.2	Illumination :	Ring illumination: stepless adjustment; sectional light; satellite illumination; optional slit lamp illumination							
5.3	Active eye tracker	Infrared, pupil and limbus tracking, 1050 frames per second (fps), manual ablation center selection, automatic Pupil Center Shift Correction							
5.4	CCA+ (plume removal system)	Integrated into the device, automatic adaptation for 250 Hz / 500 Hz operation							
		Monitor with touch screen, keyboard, printer, CRS-Master, Laser Blended Vision							
		The machine must Supply with all required accessories to put it in function,							
6	**Technical Specifications**								
		The machine should have high resolution microscope with a 3CCD digital camera along with facility of DVD and digital recording.							
		The cooling system of the machine should be internal.							
		The machine should have video tracking system with flying spot technology/variable spot size.							
		The machine should be able to correct myopia, Hypermetropia and astigmatism both on standard (planar scan) and wave front customized modes.							
6.1	**Fixation laser**								
	Type	Solid-state laser (laser class 1)							
	Wavelength	532 nm							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
6.2	**Laser data**								
	Frequency	FLEXIQUENCE 250 Hz / 500 Hz or better							
	Type	LASER medium of the machine should be ArF (Argon Fluoride) gas with a wavelength of 193nm and fluence energy between 120-250mj/cm sqm.							
6.3	**Beam dimensions**	0.7 mm FWHM (full width at half maximum), Gaussian beam profile							
	Area ablation	Programmable PTK shaping							
6.4	**Treatment range**								
		From (-12 D to +3 D (up to 3.0 D cyl)) to (-16 D to +10 D (up to 8.0 D cyl)) or better							
6.5	**Aberrometry System:**								
		Aberrometer system based on Hartmann Shack principle with associated accessories for assessment of optical aberrrations.							
		It should be compatible with the Excimer laser system as per above mentioned specifications.							
7	**Certification from the manufacturer:**								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
8	**Maintenance:**								
		2 years free maintenance.							
		Service manual & operation manual {Hardcopy & Softcopy}							
		Spare parts list with code NO							
9	Training	Service Training for one MWC Bio-Engineer shall be provided within the first year of warranty							
		User /Nurses training, by Specialist from the Supplier.							
10	**Power supply**	100 to 240 V ±10%, 50 Hz, (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1.							
11	**UPS**	Online ups not less than 3kva or better							
12	**Other specification**	Please specify.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
جهاز تنشيف وتثبيت العدسات					0				
NO	Cross Linking machin				0				
	Standard	**Requirements**							
	Complete with:-	The machine should be of latest model and must have the latest technology The system must be latest generation high quality machine, Safety, Easy to use and Movement, Simple- Single, Permanent							
	Manufacturer	Please specify manufacturer and country of origin							
	Model number	Please specify model number of the offered equipment							
	Safety:	The unit shall be safe to use both for -the operator and the patient. Electrical Safety the unit must comply with IEC 601-1 for leakage currents, Protection against leakage current, protection against electric shocks: class I, Electromagnetic compatibility EN 60601-1-2:2007. Ophthalmic instruments - fundamental requirements							
	FDA Approved & CE Marked (MDD)	**Required**							
		The system must be FDA approved and CE marked							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		The machine shuld be safe to use both for the operator and the patint the machine must comply with protection against leakage current, protection against electric shock class I							
	Quality:	high quality, Safety, Ease of Use, Heavy duty							
	Manufacturer	The manufacturing factory of any device or machine must be at the same country of origin.							
		single-LED UV light emitter,							
		control unit, and each step is software-controlled and shown on the monitor.							
		Footswitch							
		fixation point is integrated in the head of the instrument, for a more comfortable position for the patient during all the treatment							
		Integrated camera for the best real-time cornea focusing and alignment							
		The camera is useful: for real-time checking the focusing of the UV-source for real-time checking the alignment of the source with the cornea for real-time checking of the best treatment conditions.							
		Best working distance for the most comfortable condition for the doctor							
		Adjustable aperture pinhole							
		Complete device with stand and wheels							
		No follow up sittings required, No need for admission, Stops the progress and causes regression of disease, Does not need eye donation as in corneal transplant, No major precautions, No injections or stitches, No incisions as in Intacs or Corneal ring segments, Quick recovery with short follow up							
	Traininge	Fuletraining one engineer and one user in the country of machine factory							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	The following documents should be recuired								
		Should provide 2 sets(hard copy and soft copy) of:							
		1. User, technical and maintenance manuals should be supplied in english language along with machine diagrams							
		2. List of equipment and procedures required for local calibration and routine maintenance							
		3. Instructions for assembly, Service manual, operation manual {Hardcopy & Softcopy} in English							
		4. Advanced maintenance tasks documntation							
		5. Certificate of calibration and inspection							
	Maintenance	To need less maintenance free Maintenance service with free spare part guarantee for 2 years, Instructions for assembly, Service manual, operation manual {Hardcopy & Softcopy} in English							
	Power Supply	(100 - 240 V AC _+ 10 % 50/60 Hz) (power cable Compatible with the Hospital electric outlet, plug)							
	spare part guarantee for 10 years	(Ensure the provision of spare part guarantee for a period of ten (10) years from the date of supply device)							
	Other specification	Please specify.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز الليزرلمعالجة العين توليد الليزر بالكرستالة YAG					0				
NO	ND : YAG Pulsed Nano Second Laser				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
4	**Wavelength:**	1064 nm							
5	**Pulse energy, mJ**								
		-at 1064nm : >1400 mJ							
		at 532nm : > 600 mJ							
		-at 355nm: >300 mJ							
6	**Max. pulse repetition rate**	(PRRL/N), (Hz) : 10 Hz							
7	**Pulse energy stability**	(Std.Dev.), % ≤2,5							
8	**Pulsewidth**	(FWHM), ns 10...12							
9	**Beam divergence, mrad**	≤ 1.5							
10	**Beam diameter, mm**	≤ 11							
11	**Jitter (Std.Dev.), ns**	± 1							
12	**Cooling system Closed-loop**	water-to-air							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
13	**Dimensions, mm**	Laser head (L×W×H) 625 x 220 x 125 or any dimensions							
14	**Power supply unit**	(W×D×H) 700 x 366 x 693 or any dimensions							
15	**External second and the third harmonic generators**	In case of external second and the third harmonic generators, the following specifications are required							
		Specifications of Second harmonic generator:							
		Wavelength : 532 nm							
		Conversion efficiency (E1064нм),(%), not less than 40%							
		Output polarization for 532 nm should be Vertical(Liner)							
		Should have Build-in Non-crystals temp stabilization							
		Weight of generator should be not more than 2kg							
		Power Consumption: 15W or better							
		Power Supply Voltage: 24 VDC, 0.6A or better							
		Should be Compatible with the pulsed laser model							
		Specifications of third harmonic generator:							
		Wavelength: 355 nm							
		Conversion efficiency (E1064нм + E532нм), %, not less than: 20%							
		Output polarization for 355 nm should be Vertical(Liner)							
		Should have Build-in Non-crystals temp stabilization							
		Weight of the generator should be not more than 2kg							
		Power Consumption: 15W or better							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Power Supply Voltage: 24 VDC, 0.6A or better							
		Should be Compatible with the pulsed laser model							
		In case of in built second and third harmonic generators the above mentioned specifications should be explicitly mentioned.							
16	**Accessories**	Set of supply of with the pulsed laser model should include the followings:							
		Laser head 01pcs							
		Power supply unit 01pcs							
		Remote control unit 01pcs							
		Accessories kit 01pcs							
		Command protocol on flash drive 01pcs							
		Water Ciller capacity 3kW 01 pcs							
		Optical Table (1800 X 1200 mm) 01 pcs							
		Set of supply of frame for the laser system mounting should include the following:							
		Mirror modules 02pcs							
		Second Harmonic generator model (In case external harmonic generators) 01pcs							
		Third Harmonic generator model (In case external harmonic generators) 01pcs							
		Common frame 01pcs							
		Moveable platforms 02pcs							
		Powers supply 02pcs							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
17	**Certification from the manufacturer:**								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
18	**Maintenance:**								
		2 years free maintenace.							
		Service manual operation manual {Hardcopy & Softcopy}							
		application software and interface connection Included.							
		spare parts list with code NO							
19	**Power supplay**	100 to 240 V ~ ±10%, 50/60 Hz Single phase							
20	**Other specification**	Please specify.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز الليزر نوع ارجون لمعالجة العين					0				
NO	Lasers, Nd:YAG, Frequency-Doubled, Ophthalmic				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model number	Please specify model number of the offered equipment							
	FDA Approved & CE Marked (MDD)	**Required**							
		The system must be FDA approved and CE marked							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology high quality							
		The machine shuld be safe to use both for the operator and the patint the machine must comply with protection against leakage current, protection against electric shock class I							
	Treatment laser type	Should have treatment laser type Argon, Dye, Krypton, and Frequency-Doubled Nd: YAG.							
	Principal wavelengths	Shall be 530-540 nm.							
	Delivered power of different lasers								
		Argon blue-green 3 - 4 W							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Argon green 1-2 W							
		Dye 1-2 W							
		Krypton green 1.5 W							
		Krypton yellow 1.5 W							
		Krypton red 1 W							
		Nd: YAG 1 W.							
	Delivery Mode	Single, repeat.							
	Time activated laser energy	The amount of time the patient is exposed to activated laser energy shall be 0.01-2 Sec.							
	Repeat time	Repeat time shall be 0.1-2 Sec							
	Spot diameter	Retina shall be 50-1,000µm							
	Wavelength	Wavelength shall be 630 nm							
		Power shall be <1 mW.							
	DELIVERY SYSTEM TYPE								
		Slit lamp is required.							
		Intraocular probe is required.							
		Hand piece(s) is required.							
	User's interface	Manual							
	Software and/ or standard of communication(	As Applicable							
	ACCESSORIES, CONSUMABLES								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Dust covers- 1							
		Allen Key - 1							
		set spare bulb - 2 Nos							
		Should be supplied with motorized table							
		Should provide protective goggles to be exclusive for ND-Yag Laser iridotomy and capsulotomy lens,(2 each)							
		Appropriate UPS backup							
	Training	Training of users in operation and basic maintenanc shall be provided. Advanced maintenance tasks required shall be documented.							
	The following documents should be recuired								
		Should provide 2 sets(hard copy and soft copy) of:							
		1. User, technical and maintenance manuals should be supplied in english language along with machine diagrams							
		2. List of equipment and procedures required for local calibration and routine maintenance							
		3. Service and operation manuals(original and Copy) to be provided							
		4. Advanced maintenance tasks documntation							
		5. Certificate of calibration and inspection							
		6. spear part lest with code NO							
	Warranty	2 years, including all spares and caliberation.							
	Electrical Requirement :	200-230 VAC 50/60 Hz single phase							
	UPS	Online UPS shall be Provided							
	Other specification	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات بنك القرنية					0				
NO	EYE BANK				0				
	Standard	**Requirements**							
NO.	EYE BANK								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the European union or USA							
		CLINICAL SPECULAR MICROSCOPE (EYE BANK)							
	Description of Function:								
		Specular Microscope is used to monitor the number, density, and quality of endothelial cells that line the back of the cornea. A microscope magnifies the cells thousands of times and the image is captured with a camera or video camera.							
	Technical Specification:								
		Contact/Non- contact specular microscope for assessing corneal endothelium can be mounted on slit lamp							
		Wide field							
		Endothelial cell count possibility upto a low level of 500/field							
		Facility for donor eye attachment and Corneoscleral button holder							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Should have digital panel and printout facility with complete software.							
		Should have state of art design for providing more options to surgeon.							
		Photographic Coverage: 0.25x0.5 mm							
		Magnification: Minimum 150X							
		Pachymetry measurements: 25 mm							
		Modes: Auto/Manual							
		Image Memory- 10 (5 per eye)							
		Monitor of minimum 7 " colour LCD							
		Base movement- X(+/-45); Y(+/-15); Z(+/-20) mm							
		Head- X(+/-10);Y (+/-15);Z(+/-10)							
		Chinrest adjustment- 65 mm(motorised)							
	Certification from the manufacturer:								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
	Maintenance:								
		Service manual operation manual {Hardcopy & Softcopy}							
		Application software and interface connection Included.							
		spare parts list with code NO							
	Power supplay	100 to 240 V ~ ±10%, 50/60 Hz Single phase							
	Other specification	Please specify.							
مواصفات تصوير بطانة القرنية					0				
NO	**Corneal Endothelium Photography Machine**				0				
	Standard	**Requirements**							
NO.	**Corneal Endothelium Photography Machine**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3	**FDA Approved & CE Marked (MDD)**	**Required**							
		The system must be FDA approved and CE marked							
		PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology							
		The machine shuld be safe to use both for the operator and the patint the machine must comply with protection against leakage current, protection against electric shock class I							
4	**Complete with:-**								
		Corneal Endothelium Photography							
		Photography Magnification: 254x (on the Control Panel)							
		Photography Range: 0.25x0.55mm or better							
		Resolving Power: More than 125 line/mm							
		Fixation Target: Central and Peripheral							
		Corneal Thickness Measurement							
		Measurement Range : 0.400-0.750mm (Display Unit: 0.001mm Step Display) or better.							
		Other Specifications							
		Dimensions : 286~468mm (W) x 445~592mm (D) x 486~681mm (H) Or better.							
		Power Supply							
		Source Voltage: 100-240V AC, 50-60Hz							
		Power Input: 70-120VA or better.							
		The machine should be easy to operate and should have Auto image capture mode.							
		Should be able to capture Endothelial image. Also should have Auto-focusing and auto alignment.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Measurement : Should have Automated, Center& Flex - Centre methods Cell analysis should be completed in a few seconds. Also choice for Automated,Flex-Center and the center method should be used as manual analysis.							
		Analysis Data: Average Cell area, Maximum & Minimum cell area, Number of analyzed cell, Percentage of hexagonal cell, Corneal Thickness, Cell density,Standard deviation, Coefficient of variation							
		Cell image should be displayed in the entire frame and should have wide and clear image to help for objective diagnosis.							
		Should have built in Auto Pachymeter for Corneal Thickness Measurement.							
		Should have a Widescreen Touch of 15” having Panel PC mounted.							
		Should have a CCD Camera with a Konan Xe tube Flash & Konan Halogen Lamp Illumination for Focusing.							
		Photographic Field should be 0.24 x 0.4mm							
		Photographic Location should be Centre and Peripherals (12, 2, 10, 6 o’ Clock)							
		Power Requirements Should be AC 100V - 240V 50/60 Hz.							
		Power consumption should be of 200VA.							
		Dimension should be approximately 388(W) x 457(D) x 780(H) mm							
		Should be quoted with Motorised Instrument Table.							
		Wide Angle “Panorama” Photography Mode -Substantial Size increase of the analyzed area.							
		Two Specific Photographic Modes -Sequence Course & Free Style Course							
		Quick Automatic Measurement and Analysis -Instant acquisition of the analysis result -Intuitive Operation.							
		Easy-to Read Screen and Comprehensive Analysis Software							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Frequency referred values are shown on top							
		A pleomorphic/polymegethic histogram can be shown with color							
		Compact and Stylish Design -10.4” rotatable touch panel monitor							
5	**Essential requirement:**								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		Application software and interface connection Included.							
		• Service manual and operation manual {Hardcopy & Softcopy}							
6	**Warranty**	2 years, including all spares and caliberation.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
7	**Electrical Requirement :**	100-230 VAC 50/60 Hz single phase							
8	**Other specification**	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		مواصفات			0				
NO					0				
	Standard	Requirements							
NO.									
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
	2	**Glaucoma Set Consisting of:**		2	#######	5,000.00			
		CASTROVIEJO blade breaker 8 mm							
		Iris scissors 11,5 cm, curved							
		WECKER iris scissor sh/sh 11.0cm length of blades 12mm							
		ARRUGA Needle holder 13,5cm, straight							
		BARRAQUER needlehld.with catch 12cm,cvd							
		ARRUGA needleholder 16cm delicate							
		CASTROVIEJO eye speculum medium 16mm blades							
		KUHNT corneal scarifier fig. 1							
		GRAEFE strabismus hook fig. 2							
		BARRAQ.KATZIN iris fcps.,t.0,4							
		BARRAQU. Col.iris fcps.,t.0,12							
		BONN iris forceps w. pin, 7.0cm, straight, 1x2 t., 0.12mm							
		ELSCHNIG fixation forceps 1x2t							
		LESTER fixation forceps 1x2 t.							
		Tübingen tying forceps							
		TÜBINGEN air cannula							
		ELLIOT trephines set=4 in case							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
Sl.	Your	Description	Unit	Qty	Unit Price	Total Price			
No.	No.				(US Dollar	(US Dollar)			
	1	**Cataract, Corneoscleral Set Consisting of:**		2	#######	4,000.00			
		TROUTMAN CHRIS Blade breaker 9 cm, handle dia 5.5 mm							
		Razor blade pack = 10 ea.							
		Iris scissors 9 cm							
		WECKER iris scissors 11 cm sharp/blunt							
		CASTROVIEJO irid sciss. Bl/bl.							
		VANNAS iridectomy scissors 8cm, curved 6 mm blade							
		HARTMANN hemostatic forceps							
		ARRUGA Needle holder 13,5cm, straight							
		BARRAQUER Needleh.w'out catch, 11,5cm							
		CASTROVIEJO needleh.with catch cvd.							
		BARRAQUER Col.eye speculum 4cm							
		GRAEFE cataract knife fig. 2							
		GRAEFE strabismus hook fig. 2							
		CASTROVIEJO cycl.spat.0,8x15mm							
		BARRAQ.KATZIN iris fcps.,t.0,4							
		Bonn ir.fcps.w.pin, 7.0cm, straight, 1x2 t., 0.12mm							
		ELSCHNIG fixation forceps 1x2t							
		BARRAQUER fixation forceps							
		CASTROVIEJO sutur.fcps., t.1,0							
		Tübingen tying forceps							
		Tübingen air cannula							

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اجهزة قسم التعقيم

CSSW Department

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم التعقيم							
		CSSW Department							
		مواصفات جهاز التعقيم البخاري			0				
NO		Steam Sterilizer			0				
	Standard	Requirements							
		Steam Sterilizer							
1	Manufacturer	Please specify manufacturer and country of origin.							
2	Model number	Please specify model number.							
3	Safety standard	FDA Approval or CE marking.							
		AUTOCLAVE 40 LITERS							
4	Controller	Fully automatic control (microprocessor or microcomputer), multi programs, programmable parameters .							
1		Single door steam sterilizer with fully automated, microprocessor controlled operation							
2		The unit shall operate on vacuum principle, incorporating at least five standard programs							
4		Gravity mode shall be offered for liquids.							
5		Test programs shall be incorporated							
7		User customized programs shall be possible							
5	Temperature range °C	Approx. 121°C , 134°C							
3		Operating temperature range for sterilizing should be ~100-135°C							
6	Chamber capacity	40L							
13		Sterilizer chmber capacity 40 liters							
12		The unit shall be equipped with a built in steam generator, specifically designed and manufactured for use with the offered system. It shall be fully integrated.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7	Air removal method	Vacuum pump or batter							
6		Vacuum pump to be built in within the unit							
8	Chamber material	Stainless steel (316 L) or batter.							
8		SS interior (steam jacketed) and exterior panels							
9	Door	Single door with safety interlock							
9		Door system with safety interlock to prevent accidental door opening when chamber is pressurized or during cycle							
10	Type	Class B , for porous load , wrapped and unwrapped materials ,hollow load and solid product.							
11	Printer	included							
11		Built-in thermal (or circular chart) printer for detailed cycle documentation.							
12	Automatic cycle shut off	Included							
13	Over heat shut off	Included							
14	Special connection for calibration and tests	- Included for temperature sensors. - Included for pressure sensors.							
15	Test cycle	- Bowie dick test - Air leak test - Air detector function test (option if applicable).							
16	Air detector Test air detector	- Option if applicable (separate price). - adequate port should be fitted with air flow metering device.							
17	Water drain	Automatic filling and automatic draining to & from reservoir.							
18	Water reservoir	Included							
19	Indicator	For temperature or pressure and complete cycle							
20	Alarms & Errors	Indicator Audible, visual							
10		Clearly visible parameter displays (temp, pressure, cycle status, etc...)							
21	Access to modify control and storage data	- Option if applicable including all necessary hardware and soft ware to allow for authorized person (MOH) to modify parameters. - Copy of soft ware included (option if applicable).							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
22	Bowie – dick indicator or equivalent	Including for daily tests and periodic tests. qty 150 sheets (Separate price for each sheet).							
23	Accessories	• Perforated tray • Stainless steel instrument trays Qty: (3). • Paper for printer Qty: 10 rolls							
24	Power supply	220 V / 50 Hz or 380 V / 50 HZ							
25	**Certification from the manufacturer:**								
14		Bidder shall specify the exact dimension and weight for the offered equipment							
15		Bidder shall list all the safety precaution and features							
16		Compliance with standards & legislation:							
17		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
18		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
19		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
20		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
21		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
22		Special Site Preparation Requirements:							
23		Bidders shall coordinate with the civil and electromechanical contractors to provide complete site preparation requirements.							
24		Bidders shall provide complete shop drawings.							
25		Bidders shall provide complete IT Connectivity Requirements with hospital information systems, wherever applicable.							
25.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
25.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
25.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
25.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
25.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
25.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
25.7		Final operating test by manufacturer							
25.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
25.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
26	**Maintenance:**								
26.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
26.2		Service manual operation manual {Hardcopy & Softcopy}							
26.3		application software and interface connection Included.							
26.4		spare parts list with code NO							
26.5		Including maintenance and calibration tools.							
27	**Other specification**	Please specify other specification							
مواصفات					0				
NO	**Steam Sterilizer**				0				

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Standard	**Requirements**							
	Steam Sterilizer								
1	Manufacturer	Please specify manufacturer and country of origin.							
2	Model number	Please specify model number.							
3	Safety standard	FDA Approval or CE marking.							
	AUTOCLAVE 200 400 LITERS								
4	Controller	Fully automatic control (microprocessor or microcomputer), multi programs, programmable parameters .							
1		Single door steam sterilizer with fully automated, microprocessor controlled operation							
5	Mode	(Vacuum – Steam pressure –dry)							
2		The unit shall operate on vacuum principle, incorporating at least five standard programs							
6	Temperature range °C	Approx. 121°C , 134°C							
3		Operating temperature range for sterilizing should be ~100-135°C							
4		Gravity mode shall be offered for liquids.							
5		Test programs shall be incorporated							
7		User customized programs shall be possible							
7	Chamber capacity /Loading capacity (usable chamber space) /No. of sterilizing modules .	100-400 L							
13		Sterilizer chmber capacity 200 liters							
8	Jacket	Included							
8		SS interior (steam jacketed) and exterior panels							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9	Material of construction: - Chamber, jacket, doors and steam generator. - Outer casing of the unit.	- Stainless steel 316L , or higher quality (Specify thickness). - high quality stainless steel (specify).							
10	Doors operation	Automatic double doors, sliding seals design, with safety interlock and control operation.							
9		Door system with safety interlock to prevent accidental door opening when chamber is pressurized or during cycle							
11	Air removal by	Vacuum pump or Water ejector.							
6		Vacuum pump to be built in within the unit							
12	Steam supply	Electrically heated with built in steam generator or externel steam including all auxiliary and ancillary requirements to operate. With automatic control including but not limiting automatic feed water system, safety devices, insulation,.etc. Please specify.							
12		The unit shall be equipped with a built in steam generator, specifically designed and manufactured for use with the offered system. It shall be fully integrated.							
13	Types	Porous load sterilizer ,deal with porous items such as towels ,dressing gowns ,medical and surgical equipment, instruments, textile, rubber ,small lumen, utensil package and wrapped materials.							
14	Cycle stages	- Air removal, steam admission, sterilization, drying , air admission .							
15	Air detector	- Option if applicable (separate price)							
16	Test cycle	- Bowie dick test. - Air leak test. - Air detector function test (option if applicable).							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
17	Loading / unloading panel	- Loading : controlling , Process status , temperature or pressure , time ,complete cycle , door status and fault .(specify) - unloading: in process parameter ,cycle complete , door status and fault (specify) - Ability to stop cycle from unloading area.							
18	Alarm and error	Indicator Audible, visual, Included for any failure (specify) .							
10		Clearly visible parameter displays (temp, pressure, cycle status, etc...)							
19	Access to modify control and storage data	- Include all necessary hardware and Soft ware to allow authorized persons (MOH) to modify. - Copy of soft ware included.							
20	Test ports Temperature Pressure Air leak Air detector	- adequate port to attach test instruments required for the tests. - Adequate port for recommended tests. - adequate port (with needle valve and non-return valve) required for air leak tests. - adequate port (fitted with air flow metering device).(if applicable air detector)							
21	Calibration	Included with test connection.							
22	Bowie – dick indicator or equivalent.	Including for all tests as specified in international standard (daily and periodic) . 200 sheets separate price for each indicator.							
23	Chemical indicator strip	- Include 500 strips inside the chamber (for each sterilizer) with (separate price). - Include 1000 strips inside the load (for each sterilizer) with (separate price).							
24	Over pressure safety valve	Including for jacket, steam generator, chamber.							
25	Printer	included							
11		Built-in thermal (or circular chart) printer for detailed cycle documentation.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
26	PC port connection	Included, for software up date or setting parameters by PC including cable.							
27	Instruments and control	Shall be designed to operating in ambient temperature 40°C and relative humidity 80%.							
28	Accessories for each sterilizer	- Silent air compressor if it required, as specification of manufacturer. - Loading cart , Internal Qty:1 (carriage or shelf rack, chamber rail). - Loading / unloading trolley External Qty: 2 (for loading and unloading). - Baskets, modules, various Qty: as per capacity of the chamber. - Paper printer Qty: 20 roll for each sterilizer.							
29	System to reuse water	- Option if applicable to reduce water consumption per cycle. (Separate price) specify water consumption per cycle.							
30	Power Supply	- 380 V , 3ph							
31	Installation	- Recessed through two walls to separate loading and unloading area. - Remaining space between walls and ceiling must be closed by partitions (stainless steel (304) on both sides (loading and unloading area) Service doors must be provided in the clean area for maintenance staff for access to each side of sterilizer and door must be provided in the sterile area for access to loading and unloading area . - Stainless steel fascia paneling should be effective sealing to prevent either passage of air from clean area to sterile area.							
32	**Certification from the manufacturer:**								
14		Bidder shall specify the exact dimension and weight for the offered equipment							
15		Bidder shall list all the safety precaution and features							
16		Compliance with standards & legislation:							
17		The system must comply with the Electrical safety standards for electrical safety IEC-60601							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
18		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
19		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
20		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
21		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
22		Special Site Preparation Requirements:							
23		Bidders shall coordinate with the civil and electromechanical contractors to provide complete site preparation requirements.							
24		Bidders shall provide complete shop drawings.							
25		Bidders shall provide complete IT Connectivity Requirements with hospital information systems, wherever applicable.							
32.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
32.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
32.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
32.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
32.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
32.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
32.7		Final operating test by manufacturer							
32.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
32.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
33	**Maintenance:**								
33.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
33.2		Service manual operation manual {Hardcopy & Softcopy}							
33.3		application software and interface connection Included.							
33.4		spare parts list with code NO							
33.5		Including maintenance and calibration tools.							
34	**Other specification**	Please specify other specification							
	Shelves for sterilizing area								
1	Manufacturer	Please specify manufacturer and country of origin.							
2	Model number	Please specify model number.							
3	Type	Free standing, robust stand for CSSD							
4	Construction	Heavy duty Stainless steel 304 or equivalent							
5	Dimensions (L x D x H)	120x40x180 cm approx.							
6	Shelves	Five shelves, variable height positions for shelve boards preferable							
7	Vertical supports	included							
	Working Table								
1	Manufacturer	Please specify manufacturer and country of origin.							
2	Model number	Please specify model number.							
3	Material of construction	- Heavy duty tube frame Stainless steel 304. - Heavy duty table top stainless steel 304.							
4	Structure	• Free standing working table. • Fitting with four supporting. • Lower shelf included stainless steel.							
5	Dimensions (L x W x H)	180x70x85 cm approx.							

الجمهورية اليمنية

اجهزة قسم الاسنان

Dental Department

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم الاسنان							
		Dental Department							
		مواصفات جهاز كرسي الاسنان			0				
NO		Dental Chair			0				
	Standard	Requirements							
	DENT-1	Dental Chair, completed with accessories كرسي اسنان مع ملحقاتة	1						
		A patient chair allowing a height adjustment from 35-90 cms							
		Seat leg rest and back rest synchronized in movement for patient comfort							
		Foot control for programmed movement, automatic re-setting switch and safety switch							
		Seamless upholstery for good aseptic control(dental chair haydraulic mouvments)							
		Dental unit specification:							
		Attached to the chair with over head delivery system to accommodate up the following 4 modules:							
		a) one turbine connections with hand-piece							
		b) One air-motor connection with air-motor and hand pieces (straight & contra).							
		c) One fiber optic air rotor connection with quick disconnect coupling.							
		d) One 6 way-syringe with removable tip for sterilization.							
		e) All the controls of the chair should be touch pad on doctor's & assistant`s sides.							
		f) autoclavable pad shoud be provided on the unit where the hand pieces are placed							
		g) water reservoirs & disinfectant with automatic pressurization							
		h) Non retraction valve to avoid contaminated materials.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		i) Should have warm water syringe.							
		j) X-ray viewer originally mounted.							
		Spittoon/water unit specification:							
		a) Removable porcelain bowel, cup filler and spittoon nozzles for cleaning.							
		b) Spittoon automatic water supply.							
		c) Hi/Lo Suction with filters.							
		Light specification:							
		a) With luminosity of 20000-25000 lux.							
		b) About 260 degree of rotation of light arm movement.							
		Easy to adjust with only one handle on each side							
		Easy to clean							
		c) Light should allow vertical, horizontal & axial movement for proper focusing.							
		Dental Stool							
		a)Height adjustable with 5 double sided castors , Adjustable seat height: Maximum not less than 63 cm, Minimum not more than 50cm							
		b) Back rest							
		Accessories							
		all handpiece should be compatible							
		1Contra-angel handpiece	2						
		1 Turbine handpiece, 300.000rpm or best	2						
		1 Foot control: Single foot control For all instruments, .	2						
	DENT-3	**Light cure**	**2**						
		8 mm- 60 degree angle curing probe							
		Capable of curing all visible dental materials (in the400-500 nm visible light range)							
		Have a timer							
		High light output power, (minimum 450 mwlcm)							
		Mains power100- 240V±6%, 50Hz with British Standard 3-Pin Plug Power Cable/ Adaptor							
		Built-in overheat protection							
		Cycle iterrupt capability							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Dental Ultrasonic Scalar	**2**						
		ULTRASONIC PIEZOELECTRIC SYSTEM - FREQUENCY 25-30 KHz AND SPANNER.							
مواصفات خلاط حشوات ديجيتال					0				
NO	**Dental Amalgamator – Universal mixing unit for Dental Materials in capsules with digital timer**				0				
	Standard	**Requirements**							
	DENT-2	**Dental Amalgamator – Universal mixing unit for Dental Materials in capsules with digital timer خلاط حشوات ديجيتال**	**1**						
		Homogeneous mixing of the materials with the rotation mixing principle							
		Virtually void-free and particularly easy dispensing of the mateiral owing to centrifugal movement							
		Capsules are simply inserted into the self-locking capsule holder							
		Centrifugal movement can be switched off if required							
		It can only operate when the protective cover is closed ensuring optimum safety							
		Extremely silent mixing							
		Voltage100- 240V 50 Hz							
مواصفات كمبروسور هواء كاتم صوت بدمن زيت					0				
NO	**Oil free air compressor medical grade**				0				

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Standard	**Requirements**							
	DENT-3	**Oil free air compressor medical grade: كمبروسور هواء كاتم صوت بدمن زيت**	**1**						
		Oil free air compressor medical grade:							
		a) Air moisture filter.							
		b) With no reaction valve.							
		c) With air pressure gage.							
		d) Air tank 30 or more							
		e) Auto cut-off switch.							
		f) Oil free medical grade air.							
		g) 230V, 50Hz							
		h) oilless							
		i) Silent							
		مواصفات جهاز الاوتوكلاف			0				
NO	**Autoclave**				0				
	Standard	**Requirements**							
	DENT-4	**Autoclave**	**1**						
		Technical Specifications:							
		Steam sterilizer, pressure type, with Drying Function							
		Digital and Programmable steam Sterilizer							
		Sterilization capacity: approx. 24 L.							
		Class B							
		Mains power 220-240 volts, 50 Hz British Standard 3 Pin Power Plug / Cable							
		Use microprocessor control system.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Maximum pressure: 21 PSI / 1.5 Bar.							
		Maximum sterilization temperatures : 121°C - 134°C.							
		Heavy cast aluminum cover and bottom construction.							
		Aluminum alloy seamless inset container.							
		Safety clamping locks: retaining bayonet clamp and (6) Bakelite							
		equipped with:							
		Control valve and flexible metal exhaust tube.							
		Excess pressure relief valve and over-pressure rubber plug.							
		Aluminum container: plain basket with handles.							
		Scored water level mark inside chamber.							
		Used to sterilize:							
		Medical devices (dressing material, surgical instruments etc.).							
		Metal vessel with high-pressure seal suitable for carrying out							
		Supplied with complete Accessories :							
		1) Silicon pipe for Exhaust							
		2) 1 spare heater							
		3) User & service Manual							
مواصفات اشعة الاسنان					0				
NO	**Machine**				0				
	Standard	**Requirements**							
	DENT-5	**Dental Radiography Complete system**	**1**						
		Dental X-Ray system for intra-oral radiography o teeth and jaw, maximum flexibility configuration							
		including remote timer							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Single pulse generator							
		One push switchable for X-Ray film							
		Appliy to all projection and positioning techniques							
		X-Ray Tube Voltage = 70 kv Minimum.							
		X-Ray Tube Current =7ma minimum.							
		Focal length cone = 20 cm							
		Exposure Time Range = 0.04 - 3 sec.							
		Wall mounted X-Ray machine							
		Support arm 2000mm or more							
		High quality dental radiographs							
		Low radiation exposure							
		Extension kit push button							
		Push button alternatively right/left side or on both sides of the Timer box instead of the exposure							
		button with colied cable							
		Operation manual							
		Service manual							
		Recommended spare parts list with price and validity must be provided along with the offer (mandatory)							

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اجهزة قسم الأشعة

Radiology Department

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
اجهزة قسم التشخيص									
	Diagnostic Department								
اجهزة قسم الأشعة									
	Radiology Department								
مواصفات جهاز الرنين المغناطيسي					0				
NO	Technical Specifications For MRI System 1.5 Tesla				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model number	Please specify model number of the offered equipment							
	FDA Approved & CE Marked (MDD)	**Required**							
		The system must be FDA approved and CE marked							
	MARKET CLEARANCE FOR EITHER:	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology high quality							
	General Description	1.5 Tesla MRI System with state-of-the-art latest features commercially available at the time of supply European CE and US FDA approved.							
		The system should be cost effective, with user friendly platform, reliable and capable of providing excellent performance for clinical imaging and research. The detailed specification that follows shall be understood to be minimum requirement.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	1. MAGNET	a. Whole Body 1.5 Tesla Magnetic Resonance Imaging System optimized for higher performance in Whole Body and Vascular examinations with superconducting magnet, high performance gradients and digital Radio Frequency System.							
		b. 1.5T active shielded super conductive magnet should be short and non-claustrophobic.							
		c. It should have at least 70 cm patient bore with flared opening.							
		d. Magnet length should be less than 200cm.							
		e. Homogeneity of magnet should be less than 3 ppm over 45cm DSV, less than 1.5 ppm over 40cm DSV, less than 0.3 ppm over 30cm DSV, less than 0.1 ppm over 20cm DSV							
		f. The magnet should be well ventilated and illuminated with built in 2-way intercom for communication with patient.							
	2. SHIM SYSTEM								
		a. High performance, highly stable shim system with global and localized automated shimming for high homogeneity magnetic field for imaging and spectroscopy.							
		b. Auto shim should be available to shim the magnet with patient in position.							
	3. GRADIENT SYSTEM	a. Actively shielded Gradient system							
		b. The gradient should be actively shielded with each axis having independently a slew rate of at least 120 T/m/s and peak amplitude of 30 mT/m.							
		c. The system should have efficient and adequate Eddy current compensation							
		d. Effective cooling system for gradient coil and power supply							
	4. RF SYSTEM	a. A fully digital RF system capable of transmitting power of at least 15kw.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		b. It should also have at least 32 independent RF receiver channels with each having bandwidth of 1 MHz or more along with necessary hardware to support quadrature ICP array/Matrix coils. The highest receiver channels available with the vendor should be quoted.							
		c. It should support Parallel acquisition techniques with a factor of up to 2 in 2D.							
		d. Should allow remote selection of coils and / or coil elements.							
	5. PATIENT TABLE	a. The table should be fully motorized, computer controlled table movements in vertical and horizontal directions.							
		b. A CCTV system with color LCD display to observe the patient should be provided: Moving table angiography should be possible.							
		c. There should be a hand held alarm for patients							
	6. COMPUTER SYSTEM /IMAGE PROCESSOR / OPERATOR CONSOLE								
		a. The main Host computer should have a 19 inches or more high resolution LCD TFT color monitor with 1024 x 1024 matrix display							
		b. The system should have image storage capacity for at least 2,00,000 images in 256x256 matrix.							
		c. The reconstruction speed should be at least 1300 or more for full FOV 256 matrix.							
		d. The main console should have facility for music system for patient in the magnet room. The system should have DVD / CD / flash drive archiving facility. The system should be provided with auto DVD writer.							
		e. Two way intercom system for patient communication.							
		f. MRI System should be enabled and networked to RIS/HIS							
		g. Compatible UPS for console at least 15 minutes backup time.							
	7. MEASUREMENT SY	a. Largest Field of View should be at least 45 cm in all three axis.							
		b. The measurement matrix should be from 128x128 to 1024x1024 (true image matrices without interpolation nor over sampling).							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		c. Minimum 2D Slice thickness mm should be equal to or less than 0.5							
		d. Minimum 3D Slice thickness mm should be equal to or less than 0.1							
	8. COIL SYSTEM	Bidder should mention the number of channels and elements per coil (without coil combination expect for body imaging)							
		a. The main body coil integrated to the magnet must be Quadrature / CP. In addition to this following coils should be included in the offer							
		b. Multichannel Head coils with at least 12 channels 12 elements for high resolution brain imaging. (16 channel coils should be supplied whenever available to the vendor with no additional cost.)							
		c. Neuro-vascular Coil with 16 or more channels or Head / Neck Coil combined, capable of high resolution neuro-vascular imaging							
		d. Spine Array/Matrix Coils with at least 20 channels for thoracic and lumbar spine imaging.							
		e. Body Array/Matrix coil with 32 channels with at least 38 cm z axis coverage for imaging of abdomen, angiograms and heart. (The best available body coil with the vendor must be supplied)							
		f. Dedicated Cardiac Coil/ equivalent with at least 18-32 channels							
		g. Dedicated coil with at least 32 channels for peripheral angiography application							
		h. Bilateral Breast Coil with at least 16 channels							
		i. Dedicated 16 Channel Shoulder Coil							
		j. Dedicated Knee coil with at least 12 channels							
		k. Loop flex coils Large and Small with atleast 4 channels							
		i. Neck Soft tissue phased array coil – 8 channel or above							
		m. Suitable coils for Proton MR Spectroscopy for brain, muscle, cardiac and liver spectroscopy. (Price should be offered separately for coils and software if available)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		n. The system should continuously monitor the RF coils used during scanning to detect failure modes. RF coils should not require either set up time or coil tuning; Multi coil connection for up to 2 or more coils simultaneous scanning without patient repositioning.							
		o. Suitable Coil Storage Cart should be supplied for keeping the supplied coils.							
	9. APPLICATION SEQUENCES	a. The system should have basic sequences package with Spin Echo, Inversion Recovery, Turbo Spin Echo with high turbo factor of 256 or more, Gradient Echo with ETL of 255 or more.							
		b. Single Slice, multiple single Slice, multiple Slice, multiple stacks, radial stacks and 3D acquisitions for all applications.							
		c. Single and Multi shot EPI imaging techniques with ETL factor of 255 or more							
		d. Fat suppression for high quality images both STIR and SPIR.							
		e. The system should acquire motion artifact free images in T2 studies of brain in restless patients (Propeller, Multivane, Blade etc)							
		f. Dynamic study for pre and post contrast scans and time intensity studies							
		g. MR angio Imaging: Should have 20/30 TOF, 20/30 PC, MTS and TONE, CE-MRA,							
		h. Facilities for Accelerated time resolved vascular imaging with applications like Treats/ 4DTraks/Tricks sequences.							
		i. Fat and water excitation package. Diffusion Weighted Imaging and diffusion tensor imaging capability.							
		j. Bolus chasing with automatic and manual triggering from fluro mode to 3D acquisition mode with moving table facility.							
		k. Non contrast enhanced peripheral angiography for arterial flow with Native/Trance/lnhance sequences							
		l. Whole body application for metastasis disease with coverage of more than 180 cms without patient repositioning							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		m. High resolution Abdominal and Liver imaging in breath hold and free breathing modes with respirator triggered volume acquisitions							
		n. The system should have basic and advanced MRCP packages including free breathing and 3D techniques.							
		o. The system should have facility for flow quantification of CSF, vessel flow and hepatobiliary system.							
		p. The system should have the Hydrogen, Single Voxel spectroscopy, Multi-voxel Multi-Slice & Multi-angle 2D, 3D Spectroscopy and Chemical shift imaging in 2D/3D. The complete processing/post-processing software including color metabolite maps should be available on main console. Complete prostate spectroscopy hardware and applications should be provided.							
		q. Advanced Cardiac Applications: (Standard). VCG gating, Morphology/wall motion; Cine perfusion imaging; Myocardial viability imaging; Arrhythmia rejection techniques, Advanced Cardiac Ventricular Measurement Analysis; Cine Cardiac Tagging Techniques; Coronary artery techniques; real time interactive imaging, 2D/3D fast field echo/balanced/steady state techniques and evaluation package on workstation							
		r. Advanced Breast imaging Package.							
		s. Perfusion imaging of brain (including ASL)							
		t. Susceptibility weighted imaging with phase information (i.e. SWI/SWIp/eSWAN 2.0) Venous BOLD imaging.							
		u. Multi Direction DWl and DTI with minimum of 32 directions (Complete package including quantification and tractography software). Prospective motion correction enabled software preferred.							
		v. High resolution imaging for inner ear							
		w.The bidder should mention the latest technology like “Silent MR” or equivalent available with offered system							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		x. The bidder should mention the advanced software available with offered model for advanced clinical and research point of view.							
	10. WORK STATION	a. A workstation with preferably the same user interface as of main console is required with the availability of all necessary software including.							
		i. Basic post-processing software including MIP, MPR, surface reconstruction and volume rendering technique.							
		ii. Advanced post-processing offered applications perfusion quantification, advanced diffusion and DTI, processing of 20/30 CSI data, with color metabolite mapping, quantification of CSF flow data, vascular analysis package,.							
		b. It should have at least 19 inch LCD TFT color monitor, for at least 250,000 image storage in 256 matrix, and 4 GB RAM capacity or more, with self-playing OVO/CO archiving facility.							
		c. The workstation should display cardiac cine images in movie mode with rapid AVI creation.							
		d. The workstation should enable printing in laser film camera and color printers							
	11. SAFETY FEATURES	The System should have following safety features							
		a. The magnet system should include an Emergency Ramp Down unit (ERDU) for fast reduction of the magnetic field with Ramp Down time below 3 minutes							
		b. The magnet should have .quench bands that contain the fringe fields to a specified value in the event of a magnet quench							
		c. Real time SAR calculation should be performed by software to ensure that RF power levels comply with regulatory guidelines and are displayed on each image							
		d. The system shall have manual override of the motor drive for quick removal of the patients from the magnet bore							
		e. Temperature sensor (built in) for magnet refrigeration efficiency must be provided.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	12.DCUMENTATION	a. DICOM compatible Dry Chemistry laser/ thermal camera with integrated processor for filming from main console & workstation.							
		b. Printing on films of 14" x 17", 11" x 14" and 10" x 8" sizes in a resolution of 500 or more dpi. It should be possible to connect other imaging modalities to the printer. 5000 compatible films to be provided.							
	13. UPS	a. The system should be provided with UPS online system for the complete system for the total load of the machine, accessories, printer, console, air conditions and all other electrical for full function with at least 10 minute back up (full load) . Must be accepted and recommended from the manufacturer. **(Must be quoted separately)**							
	14. SUITABLE RF ENCLOSURE	a. RF Cabin: The system should be supplied with the imported RF cabin with RF room shielding, RF Door screen, and interiors for the same should be carried out suitably.							
	15. ACCESSORIES	a. Dual Head MRI Compatible Pressure Injector with 100 sets of syringes. **(Must be quoted separately)**							
		b. Water Chiller for Cold Head I Gradients. **(Must be quoted separately)**							
		c. One Non-ferromagnetic patient transfer trolley of international make should be provided. **(Must be quoted separately)**							
		e. Hand held metal detectors at the entrance point as will be intimated. **(Must be quoted separately)**							
		f. Phantoms for image quality audits. **(Must be quoted separately)**							
		g. Latest MRI compatible Anesthesia machine. **(Must be quoted separately)**							
		h. Suction and O2 pipeline and manifold to be provided inside the RF enclosure. **(Must be quoted separately)**							
	16. GUARANTEE	a. The vendor should guarantee the service and spare support for 10 Years of the system including Helium and cold head and all accessories after 2 years of warranty .							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		b. Application training to be provided onsite for total of FOUR weeks by an authorized application training from the manufacturer.							
		c. Remote service facility should be provided for faster resolution of service issues.							
		d- Standard proposal of training for two in-house biomedical engineers /technicians as the principal Companies standards offers for these jobs. English or Arabic speaking.							
	17. Warranty and CMC:	a. The system should have standard warranty for **Two years** including helium refill, all accessories and turnkey work. Starting From date of Installation/ Commissioning/ training and acceptance certificate from the MOH committee.							
		b. the max downtime/year should not exceed 10 working days, otherwise the supplier should pay for the downtime days 1% of the total contract amount of the stopped machine for each 10 days, and replace the machine with a new machine if the downtime/year exceed 30 working days in addition to the mentioned penalty.							
		c. The bidder should clarify the maintenance capabilities/benefits and copy of service team in the country certificates and authorizations from the Manufacturer.							
		d. Comprehensive Maintenance Contract (CMC) for the whole equipment including helium refill and all accessories including turnkey for one year should be quoted after warranty. **(Must be quoted separately)**							
	18. Turnkey:	The vendor must be visit the installation location of the device and make sure of all the requirements for the installation of the device & indicate this in the offer **(Must be quoted separately)**							
	19. The following documents should be attached with the offer :								
		The offer should be accompanied by Original data sheet of the product.							
		Refurbished Units will not be accepted.							
		Spare Parts with Code NO.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Incomplete data sheets and offers which are speculative will be rejected.							
		Turnkey offer – includes total Civil works with false roofing, Electrical work and necessary air conditioning.							
		Operation manual service manual with circuit diagram should be provided during the supply of the equipment.							
		Product quality certificates: Valid US FDA/ European CE certificate of the offered model must be submitted with the offer.							
	20. Delivery Time :	Please Specify							
A.F	**Note:**	Bidders shall furnish technical compliance statement for the model quoted , details of manufacturer including deviations if any. Technical catalogue /data sheet shall also be furnished in support of technical compliance statement without fail.							
مواصفات جهاز تصوير القلب (الايكو)					0				
NO	**Echo-cardiovascular Unit**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin.							
2	**Model number**	Please specify model number.							
3	**Safety standard**								
	FDA Approval	Required							
	CE marking	Required							
4	**CLINICAL APPLICATIONS**	Adult and pediatric							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Design & quality**	Mobile system on four castors , two with brakes High quality							
6	**System technology**	High performance, highly mobile and easy to use dedicated Should be of latest model and must have the latest technology, The system must be latest generation, new model, Digital Radiography System able for high load & hard work. Echo-cardiovascular imaging system designed mainly for Cardiac and Vascular, applications; and can support additionally, Abdominal Musculoskeletal, Urological, Small Parts, Superficial, Pediatric, Neonatal and Transcranial and other applications.							
7	**Scanning modes**	-System should support the following modes (even if optional): - B-Mode, M-Mode, Doppler mode, Color Flow, Continuous wave Doppler, Pulsed Wave Doppler, Real time duplex and Triplex mode.							
8	**Scanning Parameters**	Cine loop playback (Max number frames 960 MB) or better							
		Displayed Imaging Depth up to: ≥ 30 cm							
		Single or dual focus in cardiac imaging.							
		Harmonics imaging. CHI/THI							
		Scanning parameters for each mode to be stated.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
19	**Standard scanning and image enhancements features. (Must be in the system).**	- 3D freehand. - 3D automatic. - 4D automatic. - B-mode. - Contrast harmonic imaging. - Tissue harmonic imaging. - Yissue Doppler Mode. TDI - M-mode. - Doppler. - Color Doppler imaging (CDI), 3D/4D. - Power Doppler imaging (PDI), 3D/4D. - Continuous wave Doppler. - Pulse wave Doppler PWD. - Duplex mode. - Triplex mode. - Tissue Doppler imaging. - B/M, Color Flow. CF - Auto Optimization(for B-mode, Color Doppler and PW/CW Doppler), -- Virtual Convex (Trapezoid view for Linear probes) for linear probes. - Compound imaging (for convex and linear array probe).							
10	**Standard scanning and image enhancements features. (Must be in the system) Cont..**	Cine memory (to be stated)							
		System should include an auto optimization programs for:							
		Automatic optimization of B mode.							
		Automatic spectral optimization in Doppler mode. (base line and scale).							
		Automatic color optimization in color mode.							
		Real-time duplex or Triplex Mode							
		Adjustable transmit focus							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Automated PW Doppler image optimization							
		Dynamic receive focus							
		Grayscale levels							
11	**Display Modes**	Live and Stored Display Format: Full size and split screen - both w/ thumbnails. For Still and CINE.							
		Review Image Format: 4x3 or similar, and "thumbnails". For Still and CINE.							
		System should support simultaneous modes capability like:							
		Dual B (B/B); / B/PW;/ B/CFM; / B/M; / B + CFM/M							
		Real-time Triplex Mode (B + CFM +CW/PW)							
		Virtual convex mode on linear probes.							
		Multi Image Split Screen Live and/or frozen.							
12	**Advanced Cardiac applications.**	System should support Automatic calculation of ejection fraction EF using simpson method with ECG Gating.							
		System should support Anatomical M mode that suport the rotation of M cut line to any direction.							
		System should support Stress Echocardiography with didicated protocols.							
		Speckle-tracking strain and strain rate							
		Exam protocols							
		Digital calipers (Distance, area)							
13	**Image processing**	System should support the following image processing features:							
		Steerable Doppler with all imaging probes							
		Dynamic Gain compensation.							
		Dynamic reject.							
		Adjustable display parameters for the following: Gain, reject, compress, color maps – can be adjusted in live or digital replay or image clipboard recall.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		- Adjustable velocity scale in Doppler. - Adjustable wall filters. - Adjustable angle correction with automatic adjustment of velocity scale in live; - Digital replay and image clipboard recall							
		- System must support harmonics imaging. - System should support image compounding or Linear probes. - The software must support sector tiling in cardiac imaging.							
14	**Data Storage and Backup**	Digital storage hard drive, ≥ 1 TB SSD or more							
		The system should offer on board patient database for patient data and their images.							
		The software should provide an easy backup method to back up patient data and images on CD/DVDs or on remote DICOM Station.or better							
		Ability to store patient images and data on USB/CD/DVD with viewer that work on any PC without any additional software.							
		On board CD/DVD for backup of patient images.							
15	**Reporting**	The system should have an integrated reporting software with the ability to customize the design, add the logo and etc.							
		Reports Must include Exam results including patient info, exam info, measurements, calculations, images, comments and diagnosis of the doctor.							
		Several Standard templates should be provided and able to add new report templates as required.							
		The software should be able to convert reports to PDF formats.							
		Reports must be printable to any regular office color printer with high quality settings.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
16	**Measurements, annotations and calculations:**	Comprehensive software, annotation, calculations including Real Time Auto Doppler calculations and basic report packages supporting Cardiac, general imaging, obstetrics, gynecology, vascular and urology.							
		Renal Calcs; Urological Calcs ; OB Calcs ;Fetal Trending; Multi Gestational Calcs; Gynecological Calcs; Vascular Calcs; Cardiac Calcs; Real-time Auto Doppler Calculations							
		System must support row data saving so as to allow user to change some scanning parameters like gain/ gray map etc...and do measurements off patient.							
		System should have a customizable standard annotation library.							
17	**DICOM 3.0 COMPLIANT**	Required							
18	**Monitor**	Split screen (Twin View)							
		20 inch (at least) color LCD/LED monitor with swivel arm to allow rotation/ movement in/out and up/down.							
19	**Probes:**	System should support up to 4 active probe ports. Each Probe must have several presets with the ability to create user defined presets of scan settings.							
20	**Required Probes:**								
	Phased array sector Probe- Adult:	Applications: Adult Cardiac; Probe Band Width : 1.5 - 3.6 MHz (or better) ; 90 Degree viewing angle; 30 cm penetration depth. If Matrix probe is supported please quote (preffered).							
	Phased array sector Probe-Pediatrics:	Applications: Pediatric Cardiac; Probe Band Width : 3 - 8 MHz (or better) ; 90 Degree viewing angle; 15 cm penetration depth or better.							
21	**Probe presets:**	System should have ready configured presets for each probe application and should allow user to store additional presets as required.							
21	**Peripherals**	Standard Color Video printer							
		System should support the connection to computer printers color using USB port.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		ECG module with ECG kit.							
22	**User Interface:**	The system should include full alphanumeric keyboard.							
		Touch screen interface is very much recommended.							
		Ultrasound functions keyboard should have a presets buttons for easy access of certain functions in the software.							
		System should have at least 6 TGC Pods, with Re-mapping Functionality at Any Depth.							
23	**User Documentation**	On board user manual.							
		Service manual							
		Printed hard copy of user manual must be attached with each system.							
24	**Certification from the manufacturer:**								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn’t response when needed.							
25	**Maintenance:**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		preferred less maintenance needed. 2 years free maintenace or more							
		Service manual operation manual {Hardcopy & Softcopy} in Engishe							
		application software and interface connection Included.							
		spare parts list with code NO							
26	**Power Requirements**	100 - 230V AC, 50Hz							
27	**Other specification**	Please specify other specification							
RAD-3	**Echo-cardiovascular Unit**								
1	**Manufacturer**	Please specify manufacturer and country of origin.							
2	**Model number**	Please specify model number.							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
4	**Design**	Mobile system on four castors , two with brakes.							
5	**System technology**	High performance, highly mobile and easy to use dedicated Should be of latest model and must have the latest technology, The system must be latest generation, new model, Digital Radiography System able for high load & hard work. Echo-cardiovascular imaging system designed mainly for Cardiac and Vascular, applications; and can support additionally, Abdominal Musculoskeletal, Urological, Small Parts, Superficial, Pediatric, Neonatal and Transcranial and other applications.							
6	**Scanning modes**	-System should support the following modes (even if optional): - B-Mode, M-Mode, Doppler mode, Color Flow, Continuous wave Doppler, Pulsed Wave Doppler, Real time duplex and Triplex mode.							
7	**Scanning Parameters**	Cine loop playback (Max number frames 960 MB)							
7-1		Displayed Imaging Depth up to: ≥ 30 cm							
7-2		Single or dual focus in cardiac imaging.							
7-3		Harmonics imaging. CHI/THI							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7-4		Scanning parameters for each mode to be stated.							
7-5									
8	**Standard scanning and image enhancements features. (Must be in the system).**	- 3D freehand. - 3D automatic. - 4D automatic. - B-mode. - Contrast harmonic imaging. - Tissue harmonic imaging. - Yissue Doppler Mode. TDI - M-mode. - Doppler. - Color Doppler imaging (CDI), 3D/4D. - Power Doppler imaging (PDI), 3D/4D. - Continuous wave Doppler. - Pulse wave Doppler PWD. - Duplex mode. - Triplex mode. - Tissue Doppler imaging. - B/M, Color Flow. CF - Auto Optimization(for B-mode, Color Doppler and PW/CW Doppler), -- Virtual Convex (Trapezoid view for Linear probes) for linear probes. - Compound imaging (for convex and linear array probe).							
9	**Standard scanning and image enhancements features. (Must be in the system) Cont..**	Cine memory (to be stated)							
9-1		System should include an auto optimization programs for:							
9-2		Automatic optimization of B mode.							
9-3		Automatic spectral optimization in Doppler mode. (base line and scale).							
9-4		Automatic color optimization in color mode.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9-5		Real-time duplex or Triplex Mode							
9-6		Adjustable transmit focus							
9-7		Automated PW Doppler image optimization							
9-8		Dynamic receive focus							
9-9		Grayscale levels							
10	**Display Modes**	Live and Stored Display Format: Full size and split screen - both w/ thumbnails. For Still and CINE.							
10-1		Review Image Format: 4x3 or similar, and "thumbnails". For Still and CINE.							
10-2		System should support simultaneous modes capability like:							
10-3		Dual B (B/B); / B/PW;/ B/CFM; / B/M; / B + CFM/M							
10-4		Real-time Triplex Mode (B + CFM +CW/PW)							
10-5		Virtual convex mode on linear probes.							
10-6		Multi Image Split Screen Live and/or frozen.							
11	**Advanced Cardiac applications.**	System should support Automatic calculation of ejection fraction EF using simpson method with ECG Gating.							
11-1		System should support Anatomical M mode that suport the rotation of M cut line to any direction.							
11-2		System should support Stress Echocardiography with didicated protocols.							
		Speckle-tracking strain and strain rate							
		Exam protocols							
		Digital calipers (Distance, area)							
12	**Image processing**	System should support the following image processing features:							
12-1		Steerable Doppler with all imaging probes							
12-2		Dynamic Gain compensation.							
12-3		Dynamic reject.							
12-4		Adjustable display parameters for the following: Gain, reject, compress, color maps – can be adjusted in live or digital replay or image clipboard recall.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
12-5		- Adjustable velocity scale in Doppler. - Adjustable wall filters. - Adjustable angle correction with automatic adjustment of velocity scale in live; - Digital replay and image clipboard recall							
12-6		- System must support harmonics imaging. - System should support image compounding or Linear probes. - The software must support sector tiling in cardiac imaging.							
13	**Data Storage and Backup**	Digital storage hard drive, ≥ 500 GB							
13-1		The system should offer on board patient database for patient data and their images.							
13-2		The software should provide an easy backup method to back up patient data and images on CD/DVDs or on remote DICOM Station.							
13-3		Ability to store patient images and data on USB/CD/DVD with viewer that work on any PC without any additional software.							
13-4		On board CD/DVD for backup of patient images.							
14	**Reporting**	The system should have an integrated reporting software with the ability to customize the design, add the logo and etc.							
14-1		Reports Must include Exam results including patient info, exam info, measurements, calculations, images, comments and diagnosis of the doctor.							
14-2		Several Standard templates should be provided and able to add new report templates as required.							
14-3		The software should be able to convert reports to PDF formats.							
14-4		Reports must be printable to any regular office color printer with high quality settings.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15	**Measurements, annotations and calculations:**	Comprehensive software, annotation, calculations including Real Time Auto Doppler calculations and basic report packages supporting Cardiac, general imaging, obstetrics, gynecology, vascular and urology.							
15-1		Renal Calcs; Urological Calcs ; OB Calcs ;Fetal Trending; Multi Gestational Calcs; Gynecological Calcs; Vascular Calcs; Cardiac Calcs; Real-time Auto Doppler Calculations							
15-2		System must support row data saving so as to allow user to change some scanning parameters like gain/ gray map etc...and do measurements off patient.							
15-3		System should have a customizable standard annotation library.							
16	**DICOM 3.0 COMPLIANT**	Required							
17	**Monitor**	Split screen (Twin View)							
17-1		20 inch (at least) color LCD/LED monitor with swivel arm to allow rotation/ movement in/out and up/down.							
18	**Probes:**	System should support up to 4 active probe ports. Each Probe must have several presets with the ability to create user defined presets of scan settings.							
19	**Required Probes:**								
19-1	**Phased array sector Probe- Adult:**	Applications: Adult Cardiac; Probe Band Width : 1.5 - 3.6 MHz (or better) ; 90 Degree viewing angle; 30 cm penetration depth. If Matrix probe is supported please quote (preffered).							
19-2	**Phased array sector Probe-Pediatrics:**	Applications: Pediatric Cardiac; Probe Band Width : 3 - 8 MHz (or better) ; 90 Degree viewing angle; 15 cm penetration depth or better.							
19-3	**TEE Probes**	Applications: adult TEE cardiology. 7.5-2.5 Mhz adjustable frequency range. 90 Degree Field of view and depth up to 30 cm.							
19-4	**TEE Probes**	Applications: Pediatric TEE cardiology. 3- 8 Mhz adjustable frequency range. 90 Degree Field of view and depth up to 30 cm.							
19-5	**Linear array sector Prob**	5-10 Mhz							
19-6	**Convex array sector Pro**	3-5 Mhz							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
19-7	**Probe presets:**	System should have ready configured presets for each probe application and should allow user to store additional presets as required.							
20	**Peripherals**	Standard Color Video printer							
20-1		System should support the connection to computer printers color using USB port.							
20-2		ECG module with ECG kit.							
21	**User Interface:**	The system should include full alphanumeric keyboard.							
21-1		Touch screen interface is very much recommended.							
21-2		Ultrasound functions keyboard should have a presets buttons for easy access of certain functions in the software.							
21-3		System should have at least 6 TGC Pods, with Re-mapping Functionality at Any Depth.							
22	**User Documentation**	On board user manual.							
22-1		Service manual							
22-2		Printed hard copy of user manual must be attached with each system.							
23	**Certification from the manufacturer:**								
23.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
23.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
23.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
23.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
23.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
23.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
23.7		Final operating test by manufacturer							
23.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
23.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
24	**Maintenance:**								
24.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
24.2		Service manual operation manual {Hardcopy & Softcopy}							
24.3		application software and interface connection Included.							
24.4		spare parts list with code NO							
24.5		Including maintenance and calibration tools.							
25	**Power Requirements**	220/230V AC, 50Hz							
25.1		system Power re+C1765+B1758:C1769+B1757:C1769+B1752:C1769							
26	**Other specification**	Please specify other specification							
مواصفات جهاز ماسح انسجة الكبد الفيبرو سكان					0				
NO	**Fibroscan Machine with Standard Probe**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3		**FDA Approved & CE Marked (MDD)**							
		The system must be FDA approved and CE marked							
4	**MARKET CLEARANCI**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
		The machine shuld be of latest model and must have lattest technology, high quality							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**Description of Function**	The equipment will be used to measure the stiffness (Elasticity of the Hepatic parenchyma and quantification of stenosis by non-invasive techniquie based on Ultrasound Elastography technique and should also provide controlled attenuation parameter for steatosis.							
6	**Technical Specifications**	**Functioning modes:**							
		2D strain imaging or better							
		A mode							
		TM mode							
7	**Display:**	LCD monitor touch screen							
		Rosolution: 800x600 pixels with 256000 colors							
		Tactile interface:							
		17"touch screen or more							
		Simultaneous probe connector							
		Front and rear handles for easy manipulation							
		High speed elastography engine							
		Automated probe selection							
8	**Connectivity**	VGA, RJ45 and USBx2 outputs							
		Keyboard with 2 button trackball/Touch screen .							
9	**Computer and Software:**	It should have dedicated user interface, data import/export on USB flash disk, report printing option, facility for patient's database and a storing space of upto 20000 patients							
		Operating system: Microsoft Windown7/8 with explorer 7.0, firefox 3.0, PDF reader (acrobat 9.0 or similar), office word 2010							
		15"TFT monitor							
		RAM 8GB with CD/DVD writer, 1 Tb SSD, modem, LAN, RNIS and smart memory PC card slot or digital output to facilitate direct recording of data, image and video output from processors							
		Multilingual report generator							
10	**Standard probe M for adults:**								
		Ultrasound central frequency: 2.5 M Hz or more							
		Output power: 2mW							
		Mechanical Index: 0.68							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Mechanical wave frequency: 50 Hz							
		Mechanical travel: 2mm							
		Mechanical power: 16mW							
		XL Probe - 1 nos (Optional)							
		Pediatric probe - 1 nos - (optional)							
11	**System configeration, accessories, spares and consumables**								
		Color laserjet printer							
		Ultrasound jelly - 250ml/bottle							
		Tissue paper box							
		Photoglossy paper 90 GSM, packet of 50 pcs							
12	**Power Supply:**	110 - 220 V 50/60 Hz							
13	**OTHER SPECIFICATI(**	(Please Mention)							
14	**Training**	Two Persons to be provided training at site for two weeks or at any center if needed.							
		Remote service facility should be provided for faster resolution of service issues.							
		Standard proposal of training for two in-house biomedical engineers /technicians as the principal Companies standards offers for these jobs. English or Arabic speaking.							
15	**Guarantee**	The vendor should guarantee the service and spare support for 10 Years of the system and all accessories after 2 years of warranty							
16	**Warranty & CMC**	a. The system should have standard warranty for two years for all system, all accessories. Starting From date of Installation/ Commissioning/ training and acceptance certificate from the MOHP committee.							
		b. the max downtime/year should not exceed 10 working days, otherwise the supplier should pay for the downtime days 1% of the total contract amount of the stopped machine for each 10 days, and replace the machine with a new machine if the downtime/year exceed 30 working days in addition to the mentioned penalty.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		c. The bidder should clarify the maintenance capabilities/benefits and copy of service team in the country certificates and authorizations from the Manufacturer.							
17	**The following documents should be attached with the offer :**					Required			
		The offer should be accompanied by Original data sheet of the product.							
		Spare Parts with Code NO.							
		Refurbished Units will not be accepted.							
		Incomplete data sheets and offers which are speculative will be rejected.							
		Turnkey offer – includes total Civil works with false roofing, Electrical work and necessary air conditioning.							
		Operation manual & service manual with circuit diagram should be provided during the supply of the equipment.							
		Product quality certificates: Valid US FDA / European CE certificate of the offered model must be submitted with the offer.							
		Mention the number (with addresses and phone numbers) of installations of quoted units in Yemen							
18	**Delivery Time**	(Please Specify)							
مواصفات جهاز الموجات فوق صوتية					0				
NO	**Ultrasound Machine**				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model number**	Please specify model number of the offered equipment							
3	**FDA Approved & CE Marked (MDD)**	Required							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		The system must be FDA approved and CE marked							
4	**MARKET CLEARANCE FOR EITHER:**	PRODUCT NEEDS TO HAVE MARKET CLEARANCE FOR EITHER: Australia, Canada, EU, Japan, USA							
5	**Syetem specification**								
		Versatile diagnosticultrasound system with latest digital technology with 12 BIT digital converter							
		Should have at least 17” or above flicker free LED color display monitor with in plane switching technology.							
		System to be offered with multi frequency convex, linear,endocavitary probes							
		Should have feature for image optimization with one switch for over-all bestresolution.							
		Should have facility to move key board in left/right directions for operator comfort.							
6	**CLINICAL APPLICATIONS**	Abdomen, abdominal vascular, urology, OB/GYN, neonatal brain, small parts (breast, thyroid, scrotal, prostate, MSK), peripheral arterial, peripheral venous, cerebrovascular							
7	**PROBE TYPES, MHz**								
		Flat linear array 5-13 MHz or better							
		Convex array 2-6 MHz or better							
8	**SCAN MODES**								
		3-D (automatic)							
		B-mode (2-D)							
		Contrast harmonic imaging							
		Tissue harmonic imaging							
		M-mode							
		Color Doppler imaging (CDI)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Power Doppler imaging							
		Continuous wave							
		Pulsed wave							
		Duplex							
		Needle enhancement mode/capability							
9	**IMAGE DISPLAY AND PROCESSING**								
		Automated image optimization							
		Grayscale levels 256							
		Image magnification (zoom)							
		Maximum display depth, mm 300-400 mm							
		Preprocessing							
		Postprocessing							
10	**DIGITAL IMAGE STORAGE**								
		Cine loop playback							
		Digital storage hard drive size ≥500 GB							
11	**Accessories**								
		Suitable Online UPS 3KVA with 1 hour backup							
		Digital B&W Thermal Printer							
		Color Laser Printer with 10 sets of cartridge.							
		20 Tubes of Sonogel.							
		Height adjustable Motorized Patient couch							
		Revolving stool with back support for Doctor four (make Godrej).							
		All so far as required for standard use							
12	**Essential requirement:**								
		• The model should be FDA approved and/ or CE marked with treding sales in Europe, USA, Canda & Japane							
		• That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		• The equipment must be new (previously used for demonstration or loan). Must not include previously used and/or refurbished components							
		• The equipment must be a model in current production and must not be a prototype or developmental model							
		• Spare parts list with code NO							
		• The supplier must ensure the availability of expertise service and maintenance.							
		• Uninterrupted availability of spare parts and repair of next ten years must be assured.							
		• Bidder must be Authorized reseller for the equipment they are offering Yemen. If an Authorized reseller, proof must be provided							
		Application software and interface connection Included.							
		• Service manual and operation manual {Hardcopy & Softcopy}							
13	**Warranty**	2 years, including all spares and caliberation.							
14	**Electrical Requirement :**	200-230 VAC 50/60 Hz single phase							
15	**Delivery Time**	(Please Specify)							
16	**Other specification**	Please specify other specification							
RAD-1	**Ultrasound Scanner**								
1	**Manufacturer**	Please specify manufacturer and country of origin.							
2	**Model number**	Please specify model number.							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
4	**Design**	Mobile system on four castors , two with brakes.							
5	**System technology**	Digital beam former , upgradeable Hardware & Software.							
6	**Application**	Abdominal , OBS/GYN.							
7	**Scanning techniques**	1) Electronic convex scanning. 2) Electronic linear scanning.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
8	**Monitor**	High resolution B & W monitor with tilt and swivel and a size of 12 inches or more.							
9	**Key board**	Full key board with built in trackball.							
10	**Display modes**	B , B/B , M , B/M							
11	**Gray scale max.**	256 Levels							
12	**Dynamic range**	100 dB							
13	**Frame rate, frame /sec.**	150 or better							
14	**Image control**	Gain , STC , Image processing , Image shift , Zoom and post processing.							
15	**Processing channels**	256 channels or better.							
16	**M-mode sweep speed**	4 Steps or better.							
17	**Presets**	5 or better.							
18	**Cine memory**	Please specify no. of images.							
19	**Image storage**	On HDD and CD , please specify storage capacity.							
20	**Measurement**	Distance , area , volume and fetal parameters.							
21	**Calculation**	Calculation packages for abdominal , OB/GYN.							
22	**Connector probe**	Minimum two.							
23	**Probe holder**	Included.							
24	**Probes**								
		Convex probe 2-5 - 5 MHz multi frequency (Priced probe)							
		linear probe 5-7 MHz (Priced probe)							
		Vaginal probe 6.5 MHz multi frequency (Priced probe)							
25	**Printer**	B & W Printer							
26	**Certification from the manufacturer:**								
26.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
26.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
26.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
26.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
26.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
26.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
26.7		Final operating test by manufacturer							
26.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
26.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
27	**Maintenance:**								
27.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
27.2		Service manual operation manual {Hardcopy & Softcopy}							
27.3		application software and interface connection Included.							
27.4		spare parts list with code NO							
27.5		Including maintenance and calibration tools.							
28	**Accessories**	System soft ware on CD , package of Gel and Dust cover and extended board for services							
29	**Power supply**	100 to 240 V ~ ±10%, 50 Hz (power cable Compatible with the Hospital electric outlet, plug), Electrical Safety class 1,with indicators for power							
30	**Other specification**	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	مواصفات جهاز				0				
NO	AMPLITUDE EEG				0				
	Standard	Requirements							
ICU-11									
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard	FDA Approval or CE Marking							
1		Shall be a 32 Channel digital EEG Machine				YES			
2		Frequency response should be 0.05 Hz to 70Hz				YES			
3		Shall have facility to view all channels in different montages during acquisition and review				YES			
4		shall have split screen facility to study and even carefully during acquisition, where data storage should be on going in hard disk				YES			
5		Shall have split screen facility in analysis to compare the data of same time or different times with individual selection of filters, sensitivity, montages etc.				YES			
6		Shall have the facility for simultaneous acquisition and review of same record				YES			
7		Shall have the facility to mark pages / important events for printing in review				YES			
8		Shall have user definable photic stimulator protocol execution with display of photic marks on screen using LED or Xenon flash lights				YES			
9		Shall have unlimited Montage Reformatting				YES			
10		Shall have HLF (15, 35, 70 Hz) and LLF (0.1, 0.3, 1.5, 3, 5 Hz) filters for each channel as well as for all channels for display				YES			
11		Shall have the facility for sweep speed selection				YES			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
12		Shall have the facility to display traces with limit trace				YES			
13		Shall mark and annotate standards events such as Eyes open, Eyes closed, Hyperventilation on, Hyperventilation off, Artifact, and other user defined events of max. 50				YES			
14		Shall have separate sensitivity control for each channels as well as for all channels				YES			
15		Shall have the facility to enter patient details such as ID, Name, Referred By, Sex, Age, Patient History, Address, Doctor Name etc.				YES			
16		Shall have the facility to review of selected patient form list, to sort data according to patient name, sex, age, test date etc., review another patient while acquisition and to edit the patient details				YES			
17		Shall have the facility to browse page by page, Scroll in forward and reverse direction and the speed of scrolling can be different speed levels such as same acquisition speed, 2 times, 3 times , 4 times the acquisition speed				YES			
18		Shall have user definable protocols for acquisition				YES			
19		EEG pages should displayed in BRAIN MAP montage and it should have the facility to view Amplitude brain map, Progressive amplitude brain map, frequency brain map, progressive frequency brain map, 4 bands frequency brain map with frequency spectrum,				YES			
20		5 band							
21		Shall have the facility to edit current page events, browse all the marked events. Display the page having the selected event, to store any number of marked EEG pages on another HDD				YES			
22		Shall have the facility for spike detection with amplitude greater than or equal to the specified amplitude and within specified duration				YES			
23		Shall have the facility to print all marked EEG pages / Brain map pages in queue				YES			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
24		Shall have the facility to edit and print summary report, EEG page and Brain map page				YES			
25		Photic frequency should be 1-30 Hz, Stimulating time 1-16 sec and pause time 1-16 sec				YES			
26		CMRR should be greater than 100 db and input impedance should be greater than 10 M Ohms				YES			
27		Shall be supply online UPS of sufficient capacity with 1 hour backup to connect all the equipment supplied				YES			
28		Shall be supplied with a suitable Table for keeping the equipment, PC, Printer and all the accessories				YES			
29		Bidder shall list all the available accessories for pediatric patients				YES			
30		Compliance with standards & legislation:				YES			
31		The system must comply with the Electrical safety standards for electrical safety IEC-60601				YES			
32		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.				YES			
33		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.				YES			
34		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions				YES			
35		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcomes and output of the equipment must be included.				YES			

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
اجهزة قسم التشخيص									
	Radiology Department								
مواصفات جهاز الأشعة المقطعية					0				
NO	Specification of 64- slice CT scanner				0				
	Standard	Requirements							
		New generation ,intelligent 64-slice scanner, fast, high quality acquisition at optimized dose for pediatric , young and old patients for whole body examinations							
		The 64-slice scanner should include:							
		Maximum generator power50 KW or more							
		Maximum tube current not less than 240 mA							
		Maximum number of slices /rotation :16 slice/rotation							
		Rotation time : selectable from 1s down to 0.6s or less							
		Clinical capabilities							
		· At least collimation of not less 16 X 0.6mm with Excellent image quality with Rotation of not less than 600 ms and pitch not less than 1.5 and							
		· Advanced image algorithms for low contrast and high contrast enhancements and Advanced Smoothing Algorithm edge preserving							
		· enables you to scan at high speed withhigh pitch settings and obtain superb,sub-mm lung scans without reduced axial							
		· Detector technology of short afterglow (rows or less) for 0.6mm acquisition in all scan modes for optimized MPR and 3D imaging							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		· Full 360 degree rotation in 0.6s or less, to 1 seconds ensuring short breath holds ,more comfortable exams and flexibility to customize protocols							
		· Reducesdose to a minimum while ensuring thatthe required image quality is always met							
		· Significant improvement of the planning procedure and diagnosis by enabling an optimum spiral scan start after contrast injection							
		· Routine thin slice scanning ,as thin as , 0.6 or less for optimizing the use of thinner images for sagittal, coronal ,oblique and volume image							
		Image reconstruction:							
		· -Real time display (512x512) during spiral acquisition							
		· -Reconstruction field : 5-50cm							
		· -Reconstruction time : up to 8 images /second or more with full image quality							
		· Focal spot sizes : in the range of 0.8 x 0.5 / 0.8 x 0.7 or better							
		· -Reconstruction matrix : at least 512 x 512							
		· -Wide range of selectable slice thickness for prospective and retrospective reconstruction							
		· -Facilitates more detailed image analysis							
		· -Improves 3D and reformate visualization							
		Dose management :							
		For Adult and pediatric body exams , full 3 D dose modulation ,tracking collimator hardware and software for X-Ray beam tracking including							
		· Brilliant image quality and dose savings up to 20% in spiral mode							
		· Specially designed X-ray exposure filter installed at the tube collimator .for Up to 25% dose reduction with increased image quality.							
		· Real-time dose modulation during the CT-guided intervention. The tube current is automatically switched off to avoid direct X-ray exposure to							
		· Automated real-time tube current adjustment for best diagnostic image quality at lowest possible dose, independent of patient size and anatomy							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		· Filtration of the X-Ray beam must be optimized for body and head applications							
		System components specification :							
		Gantry							
		Advanced design which Continuously rotating tube-detector unit with optimized geometry for high-resolution data acquisition across the entire scan field							
		· Aperture : 70 cm							
		· Scan field : 50 cm							
		· Rotational speed: one cycle of 3600 in 1 second down to 0.6s							
		· Tilt : +/-30 degrees							
		· Remote tilt from operators console							
		· Integrated breathing lights &countdown timer							
		Laser alignment:							
		· Horizontal, sagittal, and vertical laser light that show the isocenter position of the scan plane							
		· Operate over full range of gantry tilt							
		· Coronal light remains perpendicular to axial light as gantry tilts making visual readout easy from table side or from the operator side							
		Table:							
		· Vertical table travel range : in the range 45 – 100 cm at table top or better							
		· Vertical table travel speed : in the range 2.5 – 45 cm/s or better							
		· Scannable range : 150 cm or more							
		· Table load capacity : 200 Kg or more							
		X-Ray tube :							
		High performance (CT) X-Ray tube include:							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		· Heat storage capacity : 5MHU or more combined with cooling rate							
		· Focal spots : 0.8 x 0.5 / 0.8 x 0.7							
		· Computer controlled monitoring of anode temperature							
		· Multi fan principle with Flying Focal Spot							
		· Beam limiting at collimator : equivalent to 5.5 AL or better							
		Generator:							
		High voltage generator allows for continuous operation during scan							
		· Output power : Maximum50KW or more							
		· KVP rating : 80, 100 , 130 KVP							
		· mA rating : from 25 to and Maximum not less than 340 mA							
		Detector							
		The state of art detector with ultra short afterglow with High efficiency for low mAs requirements enable best possible image quality with low patient dose							
		· Detector rows : 24 number of rows to achieve the best image quality							
		· Total channels/slice : not less than 720							
		Data acquisition system (DAS):							
		The Acquisition system provides an intelligent and reliable workflow for data							
		acquisition, image reconstruction and routine post-processing at the CT scanner. Improves image quality ,reduces noise , intuitive ,and user friendly .							
		· Display of image sequences : Automatic or interactive with mouse control							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		· Windowing : Window width and center freely selectable Single							
		window Double window (e.g. bone/soft							
		tissue)Multiple window settings for multi-image display							
		Image networking / transferring:							
		· Interface for transfer of medical images and information using the DICOM standard. Facilitates communication with devices from different manufacturers.							
		· Including:(DICOM Storage (Send/Receive) ,DICOM MPPS,DICOM Query/Retrieve, DICOM Basic print ,DICOM Get Work list , DICOM Storage Commitment ,DICOM Viewer on CD)							
		· Simplifies scan setup and includes :all reconstructions , filming , archiving , and transferring Prospectively							
		· Data export and interchange : allow to easily share images with referring physicians and patients							
		· Filming : Digital film documentation, connection to a suitable							
		digital Camera Connection via DICOM Basic print,							
		customizable film formats with up to 64 image							
		and Filming parallel to other activities							
		· Transfer of examination information from scanner into HIS/RIS via MPPS							
		· Transfer of patient information from HIS/RIS via DICOM Get Work list							
		Scan modes :							
		· Spiral scan mode : offers continuous scanning with table incrimination							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		· Axial scan mode : allows for up to 16 continuous axial planes to be acquired simultaneously							
		System software and applications							
		Intuitive easy to use user software to include,							
		· Patient registration,							
		· Image view through the volume,							
		· Virtual film sheet for printing.							
		· 3D processing with tools, SSD,MIP,MPR							
		· VRT and contrast management software.							
		· perfusion software for neurology.							
		· perfusion software for body.							
		· CT Angiography : Evaluation of spiral images and displayof vessels, vascular anomalies,aneurysms, plaques, and stenoses							
		Examination and evaluation functions to include							
		· TOMOGRAM with minimum slice thickness of 0.6mm or less.							
		· Automated scan sequences							
		· Program for functional dynamic studies.							
		· Serial scanning technique							
		· Program for instant image display during acquisition.							
		· Program for multiple image reconstructions and reformats parallel to scanning.							
		Workstation and computer capabilities							
		The Acquisition Workplace should provides an intelligent and reliable workflow for dataacquisition, image reconstruction and routine post-							
		The workplace should include							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		· High-performance computer : at least 2 x Xeon with at least 3.2 GHz processor and Graphics accelerator with 3D post-processing							
		· monitor : Flat screen 19” (48 cm) monitor							
		1,280 x 1,024 resolution							
		1,024 x 1,024 image display matrix and at							
		least0.29mm pixel							
		· Additional monitor should be include : Flat screen at least 19” (48 cm) monitor							
		Replication of primary monitor at remote location							
		Complete standard accessory set should be provided							
		Ups for computer and operator console should be provided							
		Dicom Dry printer for 2 film size on line should be include							
		Optional requirements							
		Optional :							
		· Complete list of optional SW &HW should be mentioned with their prices							
		· Complete optional accessory set should be provided with their prices							
		· Offer for Dual head injector should be include with 100 set							
		· Suitable UPS double conversion on line to cover the whole unit at least 100KVA for buck up time of 15 min at 2240 M above sea, should be mentioned							
		· Pre installation requirement should be mentioned in the offer							
		· Offer for five Years extended warrantee should be added as optional							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		مواصفات جهاز الاشعة السينية			0				
NO	Technical Specifications For Digital X-ray 500mA with DR				0				
	Standard	Requirements							
	X-1	Digital X-ray 500mA with DR	1						
		The Unit should be completely integrated system (integrated X-ray generator and image acquisition control console). Out of Generator/Tube/Detector, at least two (if not three) must be manufactured by the quoting vendor themselves. It should have following specifications:							
		1. Generator							
		500 mA unit with microprocessor controlled high frequency X-ray generator							
		· The exposure range should be 40-150KV							
		· The minimum exposure time should be 2msec or less.							
		n Automatic exposure control function is an essential requirement.							
		2. X-Ray Tube							
		Should be ceiling suspended							
		Tube should have at least 2 focal spot							
		· Small focal spot should be 0.6 or less and large focal spot should be 1.3 or less							
		· Tube loading should be at least 30 KW for small and at least 80 KW for large focus.							
		· Should have motorized movement of ceiling suspended tube.							
		Should have electromagnetic locks with collision protection sensor.							
		· Field size programming should be possible.							
		· Anode heat storage capacity should be 300 KHU or more							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		n X ray tube and collimator section should have automated image shuttering and cropping facility in collimator.							
		· All the movements of the overhead tube suspension (3D column stand) and the chest stand (vertical detector) should be fully motorized. It should be possible to override it manually.							
		n There should be auto positioning of the overhead tube suspension against both the vertical detector and the table detector. This should be possible through selected protocol from both the console as well as from wall stand control.							
		• Tube tracking should be there in all axes							
		· Overhead tube suspension (3D column stand) should also have a screen with display of important parameters and controls.							
		n Tube rotation: Vertical axis +/- 135 degrees, Horizontal axis +125/-125 degrees or better. Pelase specify rotation of your offered model.							
		· Should have motorized copper filter to avoid unwanted radiation							
		3. Horizontal Bucky Table							
		wire less sending							
		• Motor driven, adjustable height floating table top of carbon fibre or equivalent material.							
		· Compact bucky table with integrated built-in / wireless digital flat panel detector.							
		· Foot switches for adjusting height, longitudinal/side to side movements, locking.							
		· Detector movement should be synchronized with movement of the X-Ray tube.							
		· Tube movement should be synchronized with the table so that the SID is maintained automatically							
		· Removable grid for SID of 100cms for horizontal table applications							
		· Automatic exposure control should be available							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		4. Vertical Bucky (Wall stand)							
		wire less sending							
		Motorized, counter balanced adjustable height vertical Bucky with integrated built-in digital flat panel detector.							
		Should be possible to tilt the Vertical detector system (-15° to + 90°)							
		· Should be able to travel vertically from 15 inches to 60 inches above floor level							
		· Detector movement should be synchronized with movement of the X-Ray tube in all planes.							
		· Removable grid for SID of 180cms for vertical bucky applications							
		Automatic exposure control should be available							
		5. Detector System							
		Detector material should be made of amorphous silicon with CSi scintillator							
		· Two Digital flat panel detector systems with detector integrated into the wall stand and integrated/wireless for Bucky table. (total of 2 separate detectors)							
		Detector specification							
		Minimum size of detector should be 41cms X 41 cms or more for integrated detector. Please provide size of wireless detector for Buck table if offered.							
		· Image matrix size 2k x 2k pixels or more.							
		· Pixels size should be 200p.m or less							
		Image resolution should be 2.5 1ps/mm or more							
		· DOE of detector system should be 65% or more at 0.05 lps/mm or more							
		· Tube assembly movement to be automatically synchronized with both the horizontal and vertical detectors movement							
		6. Operating (acquisition) Station							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Should have high resolution TFT/LCD monitors of minimum 19" size or more (fully flat) with minimum 1024x1024 or more display matrix and antireflective front screen.							
		· Image acquisition matrix should be minimum of 2k x 2K							
		System should have auto protocol select							
		Operating console should have facility for patient identity entry, viewing and processing images, documentation.							
		Preview image should be ready in 5 sec or less							
		· Ortho Stitching should be available in vertical stand as well as on the table. The stitching should be automated. Stitching should be possible on main system.There should be in built measurement scale.							
		7. Image Viewing, Post —Processing and reporting Station and Documentation							
		An Independent Workstation with all post processing and printing facility should be quoted with storage capability of 10,000 or more images with ability to review and report X Rays independent of main console.							
		□ High speed intel Xeon processor based (Z400 workstation) CPU (3.0 GHz or higher processing speed) with post processing capability							
		□ 16 GB RAM or more							
		□ Should have its independent memory and hard disk of atleast 1TB							
		□ Should have a high resolution medical grade LCD colour monitor of 19” or more.							
		Should have independent monitor of high resolution TFT/LCD monitor of 19" or more.							
		· Image display matrix should be of high resolution, minimum of 1.5 K x 1.5 K							
		· Post acquisition image processing, viewing, reprocessing, hard copy documentation and onward transmission should be possible.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		· Image processing functions like rotate, mirroring, zoom, move, and windowing filter should be possible.							
		· There should be facility for measurements.							
		· Should be connected to a Dry chemistry Camera of 500 DPI or more for documentation. The camera should accept all size films upto 14"x17" size (three film size trays should be active).							
		· Multiformat printing should be possible with user selectable options.							
		· It should be possible to create alphabetical, date wise and exam based, work list							
		· Work list should be auto refreshing							
		8. Image Storage and Transmission							
		· Acquisition system should have hard disc storage capacity should be of 4000 or more images and Additional post processing Workstation should have storage capacity of 10,000 images or more							
		· The systems should support storage of images on compact discs and DVD							
		The system should be DICOM 3.0 (or higher version) ready (like send, receive, print, record on CD/DVD, acknowledge etc.) for connectivity to any network, computer/PC etc. in DICOM format.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	X-2	**Lead sheet**	**60**						
		2mm thikness of sheet							
		the offer should be with all of working installition and decoration							
	X-3	**DICOM dry film printer**	**1**						
		Recording method: Laser or thermal development system							
		Applicable film: Medical Dry Imaging Film Base)							
		14” x 17” , 10“ x 14” or 8” x 10”							
		Film trays: 2 trays or more							
		Processing capacity: 150 or more sheets/hour (14” x 17”), 180 sheets/hour (10" x 14"), 200 sheets/hour (8” x 10”)							
		Time required for first output: less than 90sec. (14" x 17" film size)							
		Gray scale resolution: 14 bits							
		Pixel size: 100/50 microns is selectable for all sizes**							
		Input channels: One network channel							
		Image memory: Standard 256MB or more							
		Density adjustment: Automatic density correction							
		Power supply: AC 200-240 V							
		Phase: single							
		50Hz							
		Accessoriess:							
		5 box film size 17" X14"							
		5 box film size 14" X10" or 10" X 8"							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز الأشعة السينية (الثابتة)					0				
NO	X-RAY (STATIONARY)				0				
	Standard	Requirements							
RAD-2	X-RAY (STATIONARY)								
1	**Manufacturer**	Please specify manufacturer and country of origin.							
2	**Model number**	Please specify model number.							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
4	**X-Ray Apparatus Stationary Type**	500mA							
5	**Table :**								
5.1	**Tabletop movement**	4-way							
5.2	**Tabletop material**	Heavy duty laminate carbon filter or equivalent.							
5.3	**Locking system**	Electromagnetic							
5.4	**Min patient weight**	200 Kg							
6	**Column stand :(Tube suspension)**								
6.1	**Type**	Floor or floor ceiling mounted							
6.2	**Movement**	Telescopic arm & rotatable ± 90°							
6.3	**Locks**	Electromagnetic							
7	**X-RAY GENERATOR H.F.**								
7.1	**Power output**	40Kw or less.							
7.2	**KV Range :**	40 - 125							
8	**TABLE BUCKY SYSTEM :**								
8.1	**Motorized**	Include							
8.2	**AEC :**	3-field							
8.3	**Grid ratios :**	10:1 or higher							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9	**Chest BUCKY**								
	Grid ratios :	10:1							
10	**Control panel:**	Digital display for KV, mA and (mAS or time) or brttre							
	Automatic parameter selection								
	Anatomic-specific post processing								
11	**X-RAY TUBE 500 mA :**								
11.1	**Focal spot :**	Dual							
11.2	**Heat capacity :**	, > 300 kHU							
11.3	**Anode Type :**	Rotating							
12	**Collimator :**	manual							
13	**Certification from the manufacturer:**								
13.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
13.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
13.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
13.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
13.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
13.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
13.7		Final operating test by manufacturer							
13.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
13.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
14	**Maintenance:**								
14.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
14.2		Service manual operation manual {Hardcopy & Softcopy}							
14.3		application software and interface connection Included.							
14.4		spare parts list with code NO							
14.5		Including maintenance and calibration tools.							
15	**Power Supply**	- 380/400 V , 3ph ,50HZ							
15	**Other specification**	Please specify other specification							
NO	**PROPOSED TECHNICAL SPECIFICATIONS FOR DIGITAL RADIOGRAPHY SYSTEM FOR MINISTRY OF HEALTH - UGANDA**								
		DESCRIPTION OF FUNCTION							
		Digital Radiography system with single flat panel detector, capable to take digital images in horizontal, vertical and oblique positions of all skeletal body including spine and chest.							
		OPERATIONAL REQUIREMENTS							
		§ Integrated tube stand assembly with no wall/ceiling supports to ensure fast installation							
		§ 4-way floating table top examination bed							
		§ Rotating Tube stand that supports off-table radiography							
		§ High frequency generator with automated exposure control (AEC) and anatomical programmable radiography (APR).							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		§ Wall stand for chest radiography							
		§ The detector should be fixed type and move between horizontal and vertical positions. § Maintain and manage data bank of all patient and image data.							
		§ Retrieve and reproduce accurate, high quality high resolution images from stored data without loss of image quality.							
		Generator should be of latest high frequency inverter technology for constant output and lowest radiation doses.							
		a) Solid state high frequency (20 kHz or more) generator with minimum ripples having at least 80 kW output. Latest compact size generator assembly preferably integrated into table.							
		b) Kv range: 40 -150 kV with 1 kV steps.							
		c) Exposure time range: 1 millisecond (or less) to 5 seconds (or more).							
		d) Digital Display of mA, kV, mAs on console panel							
		e) Should have 800mA or more at 100KV, AEC device.							
		f) More than 250 anatomical programmable radiography (APR) presets loaded for ease of use. Bidder to specify number of programs.							
		g) Power input to be 230-240 VAC, 50 Hz or three phase 380-415VAC, 50Hz with transformer provided by the supplier if the voltage is different, fitted with industrial plug.							
		h) Automatic compensation of the line tension of at least ± 10%.							
		i) Resettable overcurrent protection shall be fitted with electromagnetic circuit breaker.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		j) Voltage spike protector of appropriate rating minimum 1.3 times rated power of x-ray generator. Contractor should provide technical data sheet/catalogue.							
		2. X-RAY TUBE AND COLLIMATOR							
		a) Should be a high speed rotating anode dual focus tube of 2600 rpm or more compatible with the generator.							
		b) Should have dual focal spots with the following focal spot size range: small focal spot size: 0.6 or better, large focal spot size: 1.2mm or better. Smaller focal size would be preferred.							
		c) mA range: 10-600 milliampere or more.							
		d) mAs range: 0.5-600 (or more)							
		e) Tube anode heating capacity: at least 300KHU or more.							
		f) Tube anode heat dissipation capacity: at least 40 kiloHeat units per minute							
		g) Should have a collimator with auto-off function							
		h) Incoming voltage indicator should be present.							
		i) Automatic exposure control (AEC) should be available							
		j) Manual shutter control collimator							
		k) Should have a multi leaf collimator having halogen/bright light source with auto shut provision for the light.							
		l) Should have over load protection							
		3. X-RAY TABLE / HORIZONTAL BUCKY							
		a) Table top should be a carbon fiber top at least 220 cm (length) and 80 cm (width)							
		b) Table top height (from ground) to be at least 65cms.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		c) Table top material to have low radiation absorption.							
		d) The unit should be coupled to a horizontal table having floating table top with both longitudinal (at least +/- 43cm) and transverse (at least +/-11cm) movements.							
		e) It should have front pedals with electromagnetic locks for locking and releasing the table movements.							
		f) The table should have a mobile bucky with a grid ratio of 12:1 (or better) at a focal distance of 115 cm. The bucky should be compatible with standard size cassette 35*43cm (14”x17”).							
		g) Auto-centering of X-Ray tube over the bucky (in the transverse direction) after every exposure.							
		h) Two AEC chambers, one Ion chamber.							
		i) It should have a weight bearing capacity of 200kg or more.							
		j) Power input to be 220-240VAC, 50HZ							
		k) Patient hand grips							
		a) Tube stand to be integrated with table, requires no wall/ceiling support							
		b) It should have manual locking for various movements							
		c) It should have movements in all directions i.e. 3D transverse 140 cm or more, longitudinal 290 cm or more and vertical 125 cm or more.							
		d) All movements should have electromagnetic brakes with fully counter balanced mechanism.							
		e) It should have facility to display FFD/SID (Source to Image Distance) in vertical positions 150 cm or more, in horizontal position 180 cm or more.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		f) It should have provision of auto centering with the detector.							
		g) Tube rotation at vertical axis and horizontal axis +/ - 180 degree.							
		h) Cranio-caudal tube tilt (tilt along long axis of the table) to be -200 to +200 or better.							
		5. VERTICAL DETECTOR STAND							
		a) Should have an in-built detector capable to take digital images in horizontal, vertical and oblique positions with suitable movements allows for a complete range of exams from skull, skeletal body including spine, chest, bearing knee and ankle exams.							
		b) Should have a vertical bucky with oscillating/moving grid for chest radiography (grid ratio - 10:1 or better).							
		c) It should have provision to do chest radiography without grid.							
		d) It should have automatic exposure control with at least 3 fields.							
		e) The detector should be capable of rotating on its axis across +90 to -15 degrees.							
		f) The vertical movement range should be 125cm or more with the lowest point (from cassette centre to ground) being not more than 55cm and the highest point being not less than 175 cm.							
		g) The bucky should have electromagnetic lock that allow for easy positioning.							
		a) Two detectors located one in the radiological table and one in the vertical/chest bucky.							
		b) The size of the detector should be 35 cm x 43 cm or more.							
		c) The active matrix size should be 2800 X 2400 pixels or more at 140µm pitch.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		d) Should have a minimum image depth of 16 bit.							
		e) Housing material: built in material resistant to blows and falls							
		f) Interface: Ethernet (1000 Base-T). Cables and necessary input and output devices (USB) to connect it to the Computer.							
		g) The detector software shall be capable of operating with Windows 8 (OS) or higher (This shall be with licensed software for OS and Applications).							
	7. DR WORKSTATION	**7. DR WORKSTATION (IMAGE ACQUISITION, IMAGE PROCESSING)**							
		a) The digital workstation should be based on the latest high speed processors of at least 32 bit.							
		b) It should have the capability of acquiring the image from the detector system.							
		c) Should have preview time 5 seconds or better.							
		d) The system should be ready DICOM interface and networking capability with RIS/HIS/PACS.							
		e) Should provide for HL-7 compatible interface.							
		f) Advance Post Processing Software with function: for sorting of patient image based on name, date, exam etc. using predefined parameters or user defined and stored image parameters;							
		g) Correcting typographical in patient demographic module, in case RIS connection was down and manual data entry was done;							
		h) Capability of changing R/L, Flipping, Rotating, Zooming, Collimating, annotating the incoming image.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		i) Workstation: one (1) latest Pentium system, Processor (Intel Core i5 or better): 2.4 GHz or better, with Windows 8.1 (OS) or higher, minimum 8 GB RAM, minimum 1.0 Tera-Byte Hard disk, Medical grade 19'' monitor supported by all necessary software for all the various DR functions. All the accessories like mouse, keyboard, power cable etc.							
	8. IMAGE VIEWING AI	**8. IMAGE VIEWING AND ARCHIVING**							
		a) Two (2) additional fully networked workstation with high resolution 19'' monitors. DICOM images should be viewed on all the two additional workstations supplied with suitable table stand.							
		b) Should be Vendor Neutral Archive (VNA) system with ready DICOM interface and networking capability with RIS/HIS/PACS.							
		c) It should have image storage disk of 70 Gigabyte or more.							
		d) System should be able to support minimum 5 review terminals (Preview display time < 15 sec.). The configuration of the main and additional work stations should be specified in the bid.							
		e) All the software (licensed) used in the machine should be supplied in original CD's. All the data backups, ghost image of OS, the necessary device drivers should be supplied in USB or DVD							
		f) A CD, DVD – R/W drive should be supplied.							
		g) Suitable online UPS with minimum 30 minutes backup time separate for DR station and, Workstation;							
		h) Power input 220-240VAC, 50HZ.							
		9. DRY LASER CAMERA/DRY-VIEW IMAGING PRINTER (film based) with the following:							
		a) Print Images from DR workstation. In DICOM 3 format.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		b) Mechanism to print images to 8x10 and 10x12, 11x14, 14x17 film sizes (with minimum 2 universal tray online)							
		c) Resolution > 500 DPI or more.							
		d) Throughput: minimum 45 films per hour of size 14 x 17 in. (35 x 43 cm)							
		e) Multiple Image and slide printing capability.							
		f) Ethernet 10 Base-T/100Base-T network compatible.							
		g) Suitable online UPS with minimum 30 minutes backup time.							
		10. ENVIRONMENTAL FACTORS							
		The equipment units shall be capable of operating continuously in ambient temperature of 59 to 91°F (15 to 33°C) and relative humidity of 80% RH.							
		11. SYSTEM CONFIGURATION ACCESSORIES, SPARES AND CONSUMABLES Non-standard accessories:							
		- Black and white LaserJet printer for reporting		1					
		- Zero lead Aprons		4					
		- Thyroid lead shield		2					
		- Gonadal lead shield		2					
		- Stand for lead aprons		2					
		- Dosimeter		2					
		Consumables:							
		Dry-view Laser Imaging Film cartridges (14 x 17):		20					
		(Blue or clear 7-mil polyester base daylight-load film up to 125 sheets/cartridge; Lifetime (50+ years) film archive-ability and printed film images with a standard D-max of 3.0)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Ditto 10 x 12		10					
		Ditto 08 x 10		10					
		12. STANDARDS AND SAFETY							
		§ The X-ray unit should be type approved by AERB (Atomic Energy Regulatory Board).							
		§ Should be also FDA or CE approved product							
		§ Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450							
		§ All products shall have the CE Mark and a supplier should provide US FDA or European CE certificate of conformity.							
		§ Comprehensive guarantee for 5 years of complete system.							
		§ User Instruction manual in English							
		§ Maintenance/Service manual in English							
		§ List of important spare parts and accessories with their part number and costing.							
		§ Certificate of calibration and inspection from factory.							
		§ Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.							
		§ The job description of the hospital technician and company service engineer should be clearly spelt out							
		Application training shall be carried out for 2 days for the radiographers and attendants using the							
		machine installed at the hospital facility after commissioning the x-ray unit and biomedical technicians on basic maintenance and troubleshooting techniques.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Schedule of Supplies and Related Services							
		Brief Description of Supplies or Related Services	**Unit**	**Quan (no)**	**Completion/ Delivery Period** *(Months)*		**Delivery P**		
		Standard X-ray Machine, complete with Generator, Tube stand, horizontal buc	Set	6	2		Beneficiary health facilities		
		Flat panel detector (35x43)cm	Piece	12	2		Beneficiary health facilities		
		DR Workstation with standard X-Ray Generator compatibility	Set	6	2		Beneficiary health facilities		
		Archiving System (VNA) with storage capacity (70 Gigabytes or more)	Set	6	2		Beneficiary health facilities		
		Workstations Computer sets with latest operating system and accessories inclu	Set	12	2		Beneficiary health facilities		
		Dry-view imaging printer/Laser Imager (film based) complete with accessories	Piece	6	2		Beneficiar		
		UPS							
		Power supply:							
		Voltage spike protector of appropriate rating min 1.3 times rated power of x-ray	Piece	6	2		Beneficiary health facilities		
		UPS of suitable rating (>30 min run time) supplied along with batteries	Piece	6	2				
		Non-Standard Accessories:							
		Black and white LaserJet printer	Piece	6	2		Beneficiary health facilities		
		Zero lead Aprons	Piece	24	2				
		Thyroid lead shield	Piece	12	2				
		Gonadal lead shield	Piece	12	2				
		Stand for lead aprons	Piece	12	2				
		Dosimeter	Piece	12	2				
		Consumables:					Beneficiary		
		Dry-view Laser Imaging Film cartridges (14 x 17)	Piece	120	2		health facilities		
		Ditto 10 x 12	Piece	60	2				
		Ditto 08 x 10		60	2				
		Site installation and commissioning (including all charges, transport, accommo	Locat	6	1.5				
		Training for Radiographers, attendants and Biomedical Technicians	Perso	18	0.5		Beneficiary health facilities		
		Serialized Maintenance logbooks in triplicate x 100 pages	Book	18			Beneficiary health facilities		
		Maintenance and Service Contract including comprehensive on-site warranty f	Lump	1			Beneficiary health facilities		

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		1. All equipment/accessories must be latest versions of the proposed model							
		2. All the above must have a minimum 1-year manufacturer's warranty, including parts and labor.							
		3. Conformity to ISO standards specific to that equipment (e.g. IEC 60601-1, 60601-1-2, 606011-3 and 60601-2-28 for X-ray tube assemblies for medical diagnosis), confirmed by an international third party accreditation agency such as SGS, TUV, Det Norske Veritas. A color copy of the confirmation of conformity must be submitted with the Quotations.							
		4. All offers should be accompanied by clause by clause compliance / deviation statement for the ITB specification.							
		5. All manufacturers and suppliers must be ISO 9001 certified, with the latest re-certification not older than three years.							
		6. A manufacturer's specification sheet must be submitted with the Quotation.							
		7. Two User/instruction manuals (English Language) to be provided with each piece of equipment.							
		8. Two technical maintenance manuals (English Language) to be provided with each piece of equipment.							
		9. All stationary electronic equipment, as well as cart-based equipment, to be installed by technicians/engineers of the supplier.							
		10. Acceptance of equipment/payment will follow training. Training is to be delivered in two parts:							
		a) Front-end: for radiographer/attendants/nurses.							
		b) Back-end: for biomedical technicians.							
		11. Spares: Manufacturer shall undertake to provide spares for the next 5 years for the quoted model from the time of supply/installation.							
		12. Maintenance and service agreement including extended comprehensive on-site warranty of entire system (Equipment and labour) to be concluded for a period of 5 years, active from time of installation, separately with Ministry of Health, Uganda.							
		13. Manufacturer must have or appoint a competent Local Agent in Uganda who will maintain and service the equipment and provide after-sales support whenever required.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز الأشعة نظام رقمي ديجيتال					0				
NO	Digital Radiography System				0				
	Standard	Requirements							
RAD-4	Digital Radiography System								
1	Manufacturer	Please specify manufacturer and country of origin.							
2	Model number	Please specify model number.							
3	Safety standard	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
	Design & quality	Heavy duty designed, new Model & high quality							
5	X-RAY GENERATOR								
5.1		Generator should be of latest high frequency inverter technology for constant output and lowest radiation doses.							
5.2		Solid state high frequency (20 kHz or more) generator with minimum ripples having at least 3-5 kW output with (PSU) . Latest compact size generator assembly preferably integrated into table.							
5.3		Kv range: 40 -150 kV with 1 kV steps.							
5.4		Exposure time range: 1 millisecond (or less) to 5 seconds (or more).							
5.5		Digital Display of mA, kV, mAs on console panel							
5.6		Should have 500mA or more at , AEC device.							
5.7		More than 250 anatomical programmable radiography (APR) presets loaded for ease of use. Bidder to specify number of programs.							
5.8		Power input to be 230-240 VAC, 50 Hz with transformer provided by the supplier if the voltage is different, fitted with industrial plug.							
5.9		Automatic compensation of the line tension of at least ± 10%							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5.1		Resettable overcurrent protection shall be fitted with electromagnetic circuit breaker.							
5.11		Voltage spike protector of appropriate rating minimum 1.3 times rated power of x-ray generator. Contractor should provide technical data							
6	**X-RAY TUBE AND COLLIMATOR**								
6.1		Should be a high speed rotating anode dual focus tube of 2600 rpm or more compatible with the generator.							
6.2		Should have dual focal spots with the following focal spot size range: small focal spot size: 0.6 or better, large focal spot size: 1.2mm or better. Smaller focal size would be preferred.							
6.3		mA range: 10-500 milliampere or better							
6.4		mAs range: 0.5-500 (or better)							
6.5		Tube anode heating capacity: at least 300KHU or better							
6.6		Tube anode heat dissipation capacity: at least 40 kiloHeat units per minute .							
6.7		Should have a collimator with auto-off function.							
6.8		Incoming voltage indicator should be present.							
6.9		Automatic exposure control (AEC) should be available.							
6.1		Manual shutter control collimator.							
611		Should have a multi leaf collimator having halogen/bright light source with auto shut provision for the light.							
6.12		Should have over load protection .							
7	**X-RAY TABLE / HORIZONTAL BUCKY**								
7.1		Table top should be a carbon fiber top at least 220 cm (length) and 80 cm (width)							
7.2		Table top height (from ground) to be at least 65cms.							
7.3		Table top material to have low radiation absorption.							
7.4		The unit should be coupled to a horizontal table having floating table top with both longitudinal (at least +/- 43cm) and transverse (at least +/-11cm) movements.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7.5		It should have front pedals with electromagnetic locks for locking and releasing the table movements.							
7.6		The table should have a mobile bucky with a grid ratio of 12:1 (or better) at a focal distance of 115 cm. The bucky should be compatible with standard size cassette 35*43cm (14”x17”).							
7.7		Auto-centering of X-Ray tube over the bucky (in the transverse direction) after every exposure.							
7.8		Two AEC chambers, one Ion chamber.							
7.9		It should have a weight bearing capacity of 200kg or more.							
7.1		Power input to be 220-240VAC, 50HZ							
7.11		Patient hand grips							
8	**VERTICAL TUBE STAND:**								
8.1		Tube stand to be integrated with table, requires no wall/ceiling support.							
8.2		It should have manual locking for various movements .							
8.3		It should have movements in all directions i.e. 3D transverse 140 cm or more, longitudinal 290 cm or more and vertical 125 cm or more.							
8.4		All movements should have electromagnetic brakes with fully counter balanced mechanism.							
8.5		It should have facility to display FFD/SID (Source to Image Distance) in vertical positions 150 cm or more, in horizontal position 180 cm or more.							
8.6		It should have provision of auto centering with the detector.							
8.7		Tube rotation at vertical axis and horizontal axis +/ - 180 degree.							
8.8		Cranio-caudal tube tilt (tilt along long axis of the table) to be -200 to +200 or better.							
9	**VERTICAL DETECTOR STAND:**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9.1		Should have an in-built detector capable to take digital images in horizontal, vertical and oblique positions with suitable movements allows for a complete range of exams from skull, skeletal body including spine, chest, bearing knee and ankle exams.							
9.2		Should have a vertical bucky with oscillating/moving grid for chest radiography (grid ratio - 10:1 or better).							
9.3		It should have provision to do chest radiography without grid.							
9.4		It should have automatic exposure control with at least 3 fields.							
9.5		The detector should be capable of rotating on its axis across +90 to -15 degrees.							
9.6		The vertical movement range should be 125cm or more with the lowest point (from cassette centre to ground) being not more than 55cm and the highest point being not less than 175 cm.							
9.7		The bucky should have electromagnetic lock that allow for easy positioning							
10	**DIGITAL DETECTOR:**								
10.1		Two detectors located one in the radiological table and one in the vertical/chest bucky.							
10.2		The size of the detector should be 35 cm x 43 cm or more.							
10.3		The active matrix size should be 2800 X 2400 pixels or more at 140µm pitch.							
10.4		Should have a minimum image depth of 16 bit.							
10.5		Housing material: built in material resistant to blows and falls							
10.6		Interface: Ethernet (1000 Base-T). Cables and necessary input and output devices (USB) to connect it to the Computer							
10.7		The detector software shall be capable of operating with Windows 10 (OS) or higher (This shall be with licensed software for OS and Applications).							
11	**DR WORKSTATION (IMAGE ACQUISITION, IMAGE PROCESSING):**								
11.1		The digital workstation should be based on the latest high speed processors of at least 32 bit.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11.2		It should have the capability of acquiring the image from the detector system.							
11.3		Should have preview time 5 seconds or better.							
11.4		The system should be ready DICOM interface and networking capability with RIS/HIS/PACS.							
11.5		Should provide for HL-7 compatible interface.							
11.6		Advance Post Processing Software with function: for sorting of patient image based on name, date, exam etc. using predefined parameters or user defined and stored image parameters.							
11.7		Correcting typographical in patient demographic module, in case RIS connection was down and manual data entry was done.							
11.8		Capability of changing R/L, Flipping, Rotating, Zooming, Collimating, annotating the incoming image.							
11.9		Workstation: one (1) latest Pentium system, Processor (Intel Core i5 or better): 2.4 GHz or better, with Windows 10.1 (OS) or higher, minimum 8 GB RAM, minimum 1.0 Tera-Byte Hard disk, Medical grade 19'' Or 24 " monitor supported by all necessary software for all the various DR functions. All the accessories like mouse, keyboard, power cable etc.							
12	**IMAGE VIEWING AND ARCHIVING:**								
12.1		Two (2) additional fully networked workstation with high resolution 19'' monitors. DICOM images should be viewed on all the two additional workstations supplied with suitable table stand.							
12.2		Should be Vendor Neutral Archive (VNA) system with ready DICOM interface and networking capability with RIS/HIS/PACS.							
12.3		It should have image storage disk of 70 Gigabyte or more.							
12.4		System should be able to support minimum 5 review terminals (Preview display time < 15 sec.). The configuration of the main and additional work stations should be specified in the bid.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
12.5		All the software (licensed) used in the machine should be supplied in original CD's. All the data backups, ghost image of OS, the necessary device drivers should be supplied in USB or DVD							
12.6		A CD, DVD – R/W drive should be supplied.							
12.7		Suitable online UPS with minimum 30 minutes backup time separate for DR station and, Workstation.							
12.8		Power input 220-240VAC, 50HZ							
13	**DRY LASER CAMERA/DRY-VIEW IMAGING PRINTER (film based) with the following:**								
13.1		Print Images from DR workstation. In DICOM 3 format.							
13.2		Mechanism to print images to 8x10 and 10x12, 11x14, 14x17 film sizes (with minimum 2 universal tray online)							
13.3		Resolution > 500 DPI or more.							
13.4		Throughput: minimum 45 films per hour of size 14 x 17 in. (35 x 43 cm)							
13.5		Multiple Image and slide printing capability.							
13.6		Ethernet 10 Base-T/100Base-T network compatible.							
13.7		Suitable online UPS with minimum 60 minutes backup time.							
14	**SYSTEM CONFIGURATION ACCESSORIES, SPARES AND CONSUMABLES:**								
14.1		Black and white LaserJet printer for reporting one pice							
14.2		Zero lead Aprons tow pices							
14.3		Thyroid lead shield tow pices							
14.4		Gonadal lead shield tow pices							
14.5		Dosimeter tow pices							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
14.6		Dry-view Laser Imaging Film cartridges (14 x 17): (Blue or clear 7-mil polyester base daylight-load film up to 125 sheets/cartridge; Lifetime (50+ years) film archive-ability and printed film images with a standard D-max of 3.0) twenty pices							
14.7		Ditto 10 x 12 ten pices							
14.8		Ditto 08 x 10 ten pices							
15	**Certification from the manufacturer:**								
15.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
15.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
15.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
15.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
15.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
15.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
15.7		Final operating test by manufacturer							
15.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
15.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
16	**Maintenance:**								
16.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
16.2		Service manual operation manual {Hardcopy & Softcopy}							
16.3		application software and interface connection Included.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
16.4		spare parts list with code NO							
16.5		Including maintenance and calibration tools.							
17	**Power supplay**	100 to 240 V ~ ±10%, 50/60 Hz Single phase or Three phase 380V-440V ~ ±10%, 50/60 , automatic range selection (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
18	**Other specification**	Please specify other specification							
مواصفات جهاز الأشعة السينية المتحركة					0				
NO	**Mobile Radiography System**				0				
	Standard	**Requirements**							
RAD-5	**Mobile Radiography System**								
1	**Manufacturer**	Please specify manufacturer and country of origin.							
2	**Model number**	Please specify model number.							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
2	**(FDA 510 (K) Clearance OR CE Mark) & SFDA Registration**					Yes			
1	**GENERAL STANDARD**								
3	**MOBILE X-RAY UNIT**								
4	**Design & quality**	mobile , Heavy duty designed, new Model & high quality							
5	**X-Ray Apparatus MOBILE**	300mA							
22	**System Weight**	Specify				Specify			
23	**Mobile X-ray can be Mo**	Mobile X-ray can be Moved Forward & Backward by using the Bedside Drive Controls Located on the Collimator or on the Articulated Arm				Preferred			
34	**X-RAY GENERATOR**								
6	**X-RAY GENERATOR H.F.**								

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
35	**High Frequency X-Ray Generator**					Yes			
36	**Nominal power Rating**	Not Less Than (30) KW							
6.1	Power output	3-5 Kw or less.							
5	**Forward & Reverse Motor Driven**	Yes, Self Propelled Handle Drive Control							
6	**Max incline, degree**	(5-7) Degree is Preferable							
7	**Speed**	Adjustable from (0.5 - 1.3) m/s							
8	**AC line**	Yes							
9	**Line-voltage Compensator**	Yes / Automatic							
10	**Type of Power Sources**	Both AC & Battery, The Generator Should Work on AC in Case of Battery Failure (Preferable)							
11	**Power Requirements**	220 Volt / 60 Hz.							
12	**Single or Dual Battery System**	Two Independent Systems Provide Power for Driving Motors & Imaging Exposure (Preferable)							
13	**Battery Type**	Lead acid sealed lead / NiCad							
14	**Battery Charging Time - (From Empty to Full Charged)**	Not more than (10) hrs			Not more than (10) hrs				
15	**Low-Battery Indicator**	Yes				Yes			
16	**Battery Power Storage**	Specify number of maximum oprating hours							
17	**Power Cord Length, m**	Not less than (2.5-5) m or More							
18	**Wired Handheld Switch & Cordless Remote control Switch**	Yes, Exposure By Using Remote Control for Optimal Radiation Protection							
19	**Manual Movement in Case of Battery or Motor Failure**					Yes			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
20	**Remote Control Operating range**	Not Less than (7) m			Not Less than (7) m				
21	**Anti-Collision Protection System or Equivalent**					Yes			
7	**Control panel:**								
4	**Microprocessor Controlled**					Yes			
6.2	KV Range :	40 - 125							
37	**Kv Range**	Approx. (40 - 140) Kv (±10) step of 5 (as minimum)							
38	**mA range**	Not Less Than (300) mA							
39	**mAs range**	Min.: ≤ 0.4 , Max.: ≥ 320							
40	**Increments**	Step Up / Step Down / Continuous							
41	**Digital Indicator meters**	Yes, (If applicable) For KVp, mAs, mA, Dose							
24	**X-RAY TUBE**								
8	**X-RAY TUBE 300 mA :**								
8.1	Focal spot :	Dual							
8.2	Heat capacity :	, > 300 kHU							
8.3	Anode Type :	Rotating							
25	**Rotating Anode**	Yes				Yes			
26	**Anode Heat Storage Capacity**	Not Less Than (120) kHU			Not Less Than (120) kHU				
27	**Maximum output Voltage, kVp**	Approx. (140) KV , (±10)							
28	**Nominal Focal Spot Value, mm**	(0.8 / IEC) or Dual Focal Spots							
29	**Nominal Anode Input power**	Not Less Than (30) KW							
30	**Tube Movement & Angulation**					Yes			
31	**Clear view while moving (telescopic movement of the column or dropdown)**					Yes			
32	**Shortest Exposure Time**	2 ms or less				2 ms or less			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
33	**Working Column Movement Range**	Rotating (180) Degree							
9	Collimator :	manual							
42	**X-RAY COLLIMATOR**								
43	**Type**	Manual Collimator							
44	**Rotation**	Approx. (±90) Degree							
45	**Aluminum filter, mm**	≤ (3.5) mm							
46	**SID Range, cm**	Min.: ≤ 68 , Max.: ≥ 200							
47	**Centering indicator (light /laser)**	Yes, for Quick & Easy Indication of SID							
7.1	Digital display	For KV, mA and (mAs or time)							
7.2	Automatic parameter selection	Recuirde							
7.3	Anatomic-specific post processing	Recuirde							
48	**LARGE DETECTOR ASSEMBLY**								
49	**Waterproof**	Yes				Yes			
50	**Shock Sensor**	Yes				Yes			
51	**Portable Digital Detector**	Wireless				Wireless			
52	**Semiconductor material**	Amorphous silicon (A-Si)							
53	**Scintillator**	Cesium iodide (Csl)							
54	**Detector Active Area Size**	≥ (35 x 43) cm, Approx.							
55	**Image Depth / A/D Conversion / Acquisition Depth**	(14) Bit							
56	**Pixel size**	150 Micron or less is Preferred							
57	**Matrix Size / Resolution**	Not Less Than (2022 X 2022)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
58	**Detective Quantum Efficiency (DQE)**	Not Less Than (60%) at (1 lp/mm) or Higher							
59	**Modulation Transfer Function (MTF)**	Not Less Than (60%) at (1 lp/mm) or Higher							
60	**Detector Weight Including Battery**	Less Than or equal (4) kg							
61	**Max. Load Capacity On Lying Position**	More Than (100) kg							
13	**Power supplay**	100 to 240 V ~ ±10%, 50/60 Hz Single phase (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
62	**Rechargeable Battery (Built in or Removable)**	Lithium-ion , in Case of Removable Second Battery is Required or equivalent							
63	**Charging Time**	Not More Than (4) hours for 100% Charge							
64	**Battery Operation Time**	Not Less Than (3) hours at Normal Operation ,Typical at (90) images per hour							
65	**Charging Station**	Not Less Than (3) hours at Normal Operation ,Typical at (90) images per hour							
66	**Rigidity of Detector Housing**	Not Less Than (3) hours at Normal Operation ,Typical at (90) images per hour							
67	**Detector Handle**	Not Less Than (3) hours at Normal Operation ,Typical at (90) images per hour							
68	**Detector Sharing**	Not Less Than (3) hours at Normal Operation ,Typical at (90) images per hour							
69	**PROCESING & VIEWING WORKSTATION (Operator Console)**								
70	**Acquisition Workstation**	Built in				Built in			
71	**LCD Touch Screen Monitor**	Not Less Than (15) inch							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
72	Radiation Dose Monitoring (DAP)	indicate							
73	Had Disk Storage	Not Less Than (3000) images							
74	Automatic Programming (APR)					Yes			
75	IMAGE POST PROCESSING FUNCTIONS								
76	Window Width & Leveling					Yes			
77	Gray Scale Invert / Annotation					Yes			
78	Image Rotate / Free Rotation					Yes			
79	Electronic L/R Marker					Yes			
80	Patient Edit / Emergency Exam					Yes			
81	NETWORKING & SECURITY								
82	DICOM Compatible	Yes				Yes			
83	DICOM Store and DICOM structured dose report					Yes			
84	Image auto transfer	Yes				Yes			
85	Query, retrieve, Send, Receive					Yes			
86	Modality worklist	Yes				Yes			
87	Storage commitment	Yes				Yes			
88	DICOM print	Yes				Yes			
89	Patient edit	Yes				Yes			
90	DICOM MPPS	Yes				Yes			
91	DICOM viewer on CD "Burn exam on CD with DICOM viewer"					Yes			
92	HIPAA Patient Data Security					Yes			
93	DATA PROTECTION AGAINST DELETION & export "Different privilege levels "					Yes			
94	Security Package	Yes				Yes			
95	Virus Protection	Yes				Yes			
96	The ability to interact with the processing workstation from remote PC to view and process studies within the same hospi					Yes			
97	ACCESSORIES								
98	Two light weight Aprons (0.5) Equivalent of (Non Leaded Material)	(Two) - (medium & large)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
99	**One Moveable Detector holder**	(One) with Vertical, Horizontal & Swivel Movement							
100	**Add-on specifications on top of base specs**	Vendor input							
101	**Extra detector (small)**								
102	**Extra detector (large)**								
103		Above specs with telescopic column movement for X-Ray tube (if available)							
104		Extra detector (small) with exchange price							
105		Extra detector (large) with exchange price							
106		One Mobile Apron Hanger, and must hold 5 aprons							
107		Please specify Add-on specifications on top of base specs							
10	**Training**								
11	**Certification from the manufacturer:**								
11.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
11.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
11.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
11.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
11.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
11.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
11.7		Final operating test by manufacturer							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
11.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
12	**Maintenance:**								
12.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
12.2		Service manual operation manual {Hardcopy & Softcopy}							
12.3		application software and interface connection Included.							
12.4		spare parts list with code NO							
12.5		Including maintenance and calibration tools.							
14	**Other specification**	Please specify other specification							
مواصفات جهاز الأشعة السينية الخاص بالأسنان (بانوراما)					0				
NO	**Radiography PANORAMIC X-RAY**				0				
	Standard	**Requirements**							
1	Manufacturer	Please specify manufacturer and country of origin.							
2	Model number	Please specify model number.							
3	Safety standard	FDA Approval or CE marking.							
1	**DENTAL PANORAMA 2D + CEPHALOMETRIC + 3D**								
2	**FEATURES**								
3	**Digital Dental Panoramic X-Ray Machine With Cephalometric 2D And 3D Ability**								
4	**Design & quality**	Mobile , Heavy duty designed, new Model & high quality							
5	System Type	Panoramic & Cephalometric							
4	**SPECIFICATIONS**								
5		Provide 2D, 3D and Cephalometric images.							
6		10.4-inch touch panel							
7		Clear structure and easy-to-understand symbols							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
8		Provide all essential programs for Pan, cephalometric and 3D							
9		Provides a special Program to patients with extreme occlusive abnormalities.							
10		Provide Programs for lateral and frontal temporomandibular joint (TMJ) exposures with open or closed mouths.							
11		Provide special program for bite wing-like imaging with specific segmentation and collimation.							
12	**Patient positioning:**								
13		Provide stable 5-point patient positioning supports patient from forehead, temples, bite block and chin.							
13	**Patient Positioning**	Laser beam or light							
13.1		Motorized or counter balance							
13.2		Vertical adjustment							
13.3		Swivel mirror							
14	Control panel	Digital programmable displays and functions located at vertical traveling column or remote controlled with full anatomic programs.							
14	**Positioning lasers**								
15	**Adjustable anterior layer**								
16	**On 3D, the positioning can be done freely in horizontal and vertical directions**								
17		Provide the ability to captures two, low-dose perpendicular images, which display on the touchscreen panel. So, the area of interest can be targeted before taking the 3D image of full exposure							
18		V-shaped collimation to produce homogenous images							
19		Automatically optimizes panoramic and 3D exposure levels for each patient and every acquisition							
20		Automatic Spine Compensation (dosage adjustment around the spine area).							
21		Provide improved visibility of soft tissue tracing points in addition to a reduction in patient dose.							
22		Automatically obtaining the most optimum panoramic image layer							
23		Height and width collimation program for dosage reduction to be used in case of children images							
24		Ability to automatically compensate for incorrect patient positioning and difficult anatomies							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
25		Ability to reduce the influence of scattered radiation, which emerge on High-density structures in X-ray volumes.							
26		Provide 5 positioning, HxW [cm] : 5 x 5 / 6 x 8 / 6 x 8 / 8 x 8 / 8 x 15 / 13 x 15							
27	**Provide 4 different select**	Provide 4 different selectable resolutions:							
28		Endo resolution: 85 µm							
29		Standard resolution: 200 - 380 µm							
30		High resolution 125 - 320 µm							
31		Low Dose Technology: 290 - 420 µm							
6	**X-ray tube**:								
6.1	Anode type	Rotational							
32	**Technical features:**								
33	**Focal spot: 0.5mm**	Focal spot: 0.5mm							
6.2	Heat capacity.	30 KHU or more.							
36	**HU Capacity: 35 kJ, 49 0**	HU Capacity: 35 kJ, 49 000 HU							
37	**Minimum Total Filtratio**	Minimum Total Filtration: 3.2 mm AI							
38	**Wheelchair accessible**								
39	**2D Imaging Software:**								
40		Microsoft Windows compatible							
41		Modern network database							
42		Flexible integration of all camera and X-ray imaging systems. integration of 3rd party devices via special software							
43		Connection to practice management systems with patient data import and image export.							
44		2D implant planning							
45	**3D Imaging software :**								
46	**Fast and accurate diagno**	Fast and accurate diagnostics							
47	**Full DICOM compatibili**	Full DICOM compatibility integrated (Store, receive, search, retrieve and print).							
48	**Flexible, extendible impl**	Flexible, extendible implant library							
49	**Various individually adj**	Various individually adjustable print and report functions.							
50	**Load an analyze various**	Load an analyze various 3D data sets (CBCT, CT, MRI)							
51	**Manages large data and**	Manages large data and supports other DICOM compatible systems							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
52	**Provide module to allow**	Provide module to allow implant planning and surgical guides with depth control							
7	**X-ray Generator**:								
7.1	Type	H.F (Inverter Type)							
7.2	KV range	50– 90 approx.							
34	**Tube Voltage: 57-90 kV**	Tube Voltage: 57-90 kV							
35	**Tube Current: 3.2-16 mA**	Tube Current: 3.2-16 mA							
7.3	mA range .	Wide range is preferred							
8	**SID, mm:**								
8.1	Panoramic	500 mm approx.							
8.2	Cephalometric	1500 mm approx.							
9	**Magnification**	**1.2 approx.**							
10	System capabilities TMJ					included			
11	Cephalometric & panoramic					included			
12	**Exposure time, approx.**:								
12.1	Adult	Up to 15 sec							
12.2	Pediatric	Up to 13 sec							
12.3	TMJ all positions	Up to 11 sec							
12.4	Cephalometric	(0.2 - 10) sec							
15	Extra features	Please specify							
16	Collimator	Motorized is preferred							
17	**Certification from the manufacturer:**								
17.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
17.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
17.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
17.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
17.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
17.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
17.7		Final operating test by manufacturer							
17.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
17.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
18	**Maintenance:**								
18.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
18.2		Service manual operation manual {Hardcopy & Softcopy}							
18.3		application software and interface connection Included.							
18.4		spare parts list with code NO							
18.5		Including maintenance and calibration tools.							
19	**Power supplay**	100 to 240 V ~ ±10%, 50/60 Hz Single phase (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
20	**Other specification**	Please specify other specification							
مواصفات جهاز تصوير الثدي بالأشعة (الماموجراف)					0				
NO	**Radiography MAMMOGRAPHY system**				0				
	Standard	**Requirements**							
RAD-8	**Radiography MAMMOGRAPHY system**								
1	**Manufacturer**	Please specify manufacturer and country of origin.							
2	**Model number**	Please specify model number.							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
4	**GENERATOR TYPE**	Single-phase, high frequency							
5	**kV RANGE**	22-35, increments of 1 kV							
6	**mAs RANGE**	2-600							
7	**mA range**	≤100							
8	**Time range, sec**	0.02-8							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9	**AEC DETECTOR**	YES							
10	**Parameters controlled**	kV, mAs, anode/filter							
11	**Anode type**	Rotating							
12	**Heat capacity, KHU**	≥300							
13	**Target/filter combinations**	Mo/Mo, Mo/Rh							
14	**Focal spot size, mm**	0.1 and 0.3							
15	**POSITIONING ASSEMBLY Collimation**	YES							
	# 18 x 24 cm	YES							
	# 24 x 30 cm	YES							
16	**Movement locks**	Electromagnetic							
17	**Rotation, °**	-135 to +180							
18	**Vertical, cm**	100 , motorized							
19	**SID, cm**	≥66							
20	**Scale guide**	Digital (cm) and pressure (kg)							
21	**RADIATION**	>800							
22	**COMPRESSION SYSTEM**	Manual, automatic, fine adjustment							
23	**Force, N**	0-200, selectable							
24	**GRID RATIO**	5:1							
25	**BUCKY**	For both film sizes							
26	**MAGNIFICATION DEVICE**	YES							
27	**FILM ID SYSTEM**	YES							
28	**Certification from the manufacturer:**								
28.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
28.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
28.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
28.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
28.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
28.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
28.7		Final operating test by manufacturer							
28.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
28.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
29	**Maintenance:**								
29.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
29.2		Service manual operation manual {Hardcopy & Softcopy}							
29.3		application software and interface connection Included.							
29.4		spare parts list with code NO							
29.5		Including maintenance and calibration tools.							
30	**Power supplay**	100 to 240 V ~ ±10%, 50/60 Hz Single phase (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
31	**Other specification**	Please specify other specification							

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اجهزة قسم المختبر

Labortories Department

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
اجهزة قسم التشخيص									
	Diagnostic Department								
اجهزة قسم بالمختبر									
	Labortories Department								
مواصفات جهاز الاليزا					0				
NO	Elisa AUTOMATED ANALYZER				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**								
68		**Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.**							
	B-1	**Elisa AUTOMATED ANALYZER**	**1**						
1		**Microprocessor controlled, fully automated, temperature controlled micro-plate reader and washer for routine and blood bank enzyme linked immuno-absorbance assays (ELISA)**							
		Reagent system: Open							
		Flexibility and reliability							
		LCD color display							
2		**Digital LCD alphanumeric display of test parameters and status as well as other relevant information**							
		Built-in Thermal printer							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3		**Printer for result documentation and Report customization shall be included.**							
		Basic readers for 96-well micro plates							
4		**Accommodate all standard 96-well microplates (U, V, round and flat bottom; others shall be stated)**							
5		**Auto-positioning and centering**							
6		**State accuracy**							
7		**Multi-channel optical system for reading minimum of 8 channels (and 1 reference) simultaneously, with auto self-calibration capability**							
8		**Photometric accuracy +/- 1 %; +/- 0.01 Abs or better**							
9		**Reproducibility and linearity specifications should be specified**							
10		**Pre-defined stored protocols with user modification and saving capability for mostly performed test procedures.**							
11		**Specify number and description of stored protocols**							
12		**Specify overall on-board storage capacity for tests and results (in MB)**							
13	**Measurement modes shall include but not be limited to:**								
14		**Mono and bi-chromatic end point measurement**							
15		**Kinetic measurement (single and dual wavelength). Specify number of reading cycles and minimum interval time between cycles**							
		Wavelength filters 405, 450, 492, 630 nm							
16		**Wavelength range from approx. 400 to 700 nm**							
		Measurement range: 0-3 Abs,							
17		**Measurement range: 0 to 3.5 OD or better; (0.001 resolution)**							
		The Light source should be Tungsten Lamp							
18		**Specify light source type and life**							
		Fast reading: 5s for 96well plates							
		Internal memory holds up to 64 assay							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Spectral range: 340-700 nm							
		Should be reading at Single or double wavelength simultan							
19		**Specify time from power on to ready state (including warm up and any necessary calibration)**							
20	**Specify photodetector type and characteristics:**								
21		**Accuracy**							
22		**Reproducibility**							
23		**Noise level**							
24		**Linearity**							
25		**Specify filter type and characteristics.**							
		Analysis modes: Endpoint, cut-off, absorbance, Single point calibration by standard or factor, point-to-point, linear regression, uptake, cubic spline.							
26		**Specify reading speed for all modes (seconds/plate)**							
		Should be have Incubation position							
27		**Integrated incubator / shaker :Specify temperature control type, range and accuracy.**							
28	**Specify all software capabilities in terms of data acquisition, calculation and result presentation:**								
29		**Qualitative evaluations**							
30		**Quantitative evaluations**							
31		**Kinetic data reduction**							
32		**Mathematical formula transformation calculations**							
33		**Computer interfacing / connectivity for operational control, results and report formatting and generation, etc. and HIS including archiving capabilities .**							
34		**The option shall include all software and hardware requirements (PC, monitor, printer, other accessories and peripherals), communication hardware and software, etc. Each shall be specified in detail**							
35		**Barcode reader for plate identification shall be offered if available. Specify characteristics**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
36		The offer shall include a fully automated microplate washer specifically designed for use with the microplate reader stated above. The washer shall incorporate the following specifications (if integrated, state so clearly):							
37		Microprocessor controlled with alphanumeric display							
38		To accommodate all standard microplate types (96 well, flat, U, V and round. Others shall be specified)							
39		Pre-programmed protocols for all standard applications, as well as user programming capability. State details including default and total number of programs							
40		Programmable parameters shall include the following. List corresponding specifications for each parameter as applicable (volume, height, time, range, limit, accuracy, resolution, precision, etc.)							
41		Dispense							
42		Aspirate (specify minimum residual volume)							
43		Wash (full plate, strip or multi-strips and number of wash heads)							
44		Shake							
45		Soak							
46		Flow							
47		Number of cycles							
48		Interval between steps							
49		The unit shall incorporate wash, rinse and waste fluid reservoirs							
50		Specify each reservoir capacity (minimum ~ 2 L)							
51		Method and ease of filling/emptying							
52		Incorporated safeties (overfilling protection, liquid level detection, alert messages, etc.)							
53		The offer shall include as option, a fully automated microplate reagent dispenser. The reagent dispenser shall incorporate the following specifications (if integrated, state so clearly):							
54		To accommodate all standard 96-well microplates (U, V, round and flat bottom; others shall be stated)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
55		**Simultaneous 8-channel dispensing**							
56		**Sterilizable dispensing cassette**							
57		**Auto-positioning and centering. State accuracy**							
58		**Variable dispensing volume from ~ 1 µl to 100 µl in 1 µl increments or better**							
59		**Specify accuracy**							
60		**Specify precision**							
61		**Specify dispensing speed**							
62		**Capability to dispense multiple reagents in any number of columns.**							
63		**Specify number of liquids**							
64		**Specify method of delivery and line flushing / cleaning**							
65		**Shall specify the exact dimension and weight for the offered equipment**							
		Mains power 220 ±10% , 50 Hz British Standard 3 Pin Power Plug / Cable							
	Supplied with all accessories or features to put the unit fully functional								
		1x Spare lamp							
		2x Thermal Printer Paper							
		1x Operation manual							
		1x Service Manual							
		1x Power cable							
66	**Compliance with standards & legislation:**								
67		**The system must comply with the Electrical safety standards for electrical safety IEC-60601**							
69		**All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.**							
70		**Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions**							
71		**All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.**							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	B-1	**Elisa Micro plate Reader**	**1**						
		Basic readers for 96-well micro plates							
		Reagent system: Open							
		LCD color display							
		Flexibility and reliability							
		Fast reading: 5s for 96well plates							
		Internal memory holds up to 64 assay							
		Spectral range: 340-700 nm							
		Wavelength filters 405, 450, 492, 630 nm							
		Measurement range: 0-3 Abs,							
		Should be reading at Single or double wavelength simultan							
		Analysis modes: Endpoint, cut-off, absorbance, Single point calibration by standard or factor, point-to-point, linear regression, uptake, cubic spline.							
		Should be have Incubation position							
		The Light source should be Tungsten Lamp							
		Built-in Thermal printer							
		Mains power 220 ±10% , 50 Hz British Standard 3 Pin Power Plug / Cable							
		Supplied with all accessories or features to put the unit fully functional							
		1x Spare lamp							
		2x Thermal Printer Paper							
		1x Operation manual							
		1x Service Manual							
		1x Power cable							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز					0				
NO	ENZYME IMMUNOASSAY AUTOMATED ANALYZER				0				
	Standard	Requirements							
1	Manufacturer	Please specify manufacturer and country of origin							
2	Model Number	Please specify model number of the offered equipment							
3	Safety standard								
67		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
		ENZYME IMMUNOASSAY AUTOMATED ANALYZER							
1		BENCHTOP Fully automated, continuous random access immuno assay analyzer employing homogeneous (FIA) or heterogeneous (EIA) techniques or derivatives (REA, FPIA, MEIA, etc.) or a combination to cover a wide assay range. Specify employed technique(s)							
2		Microprocessor controlled, incorporating high end technical specifications at time of delivery:							
3		High resolution color display for user interfacing and test parameter / result display. Provide detailed specifications							
4		High resolution printer for printing of patient report, QC and calibration curves, etc.							
5		Reports to include patient's demographic information							
6		User configurable printing format							
7		Describe the type of user interface software with details (touch screen control, windows based, menu driven, mouse/keyboard interface, etc.)							
8		The unit shall be able to perform tests on different sample types including serum and plasma							
9		Specify sample volume							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10		**Specify time to first result**							
11		**Auto sample handling, including pipetting, diluting, sample tube loading, reagent dispensing, mixing, incubating and reading**							
12		**Specify sample tube limitations or allowed dimensions.**							
13		**Continuous loading, random access and STAT capability**							
14		**State number of running tests (simultaneously) and method of loading (tray, carousel, rack, etc.) and corresponding capacity**							
15		**State number of STAT samples**							
16		**Walkaway capability**							
17		**Incorporated waste container**							
18		**Specify the number of reagent wells and cooling method**							
19		**Barcode capability for sample and reagent handling**							
20		**Specify light source(s) characteristics:**							
21		**Type(s) and life expectancy**							
22		**Photometric wavelength**							
23		**Fluorescence excitation wavelength**							
24		**Fluorescence emission wavelength**							
25		**Automatic calibration, QC and verification**							
26		**Specify software statistical capabilities Specify system performance verification measurement and calculation software capabilities (SD, CV, etc.)**							
27		**Automatic system QC for normal and pathologic levels.**							
28		**Barcoded sample and reagent handling capabilities.**							
29		**The system shall incorporate extensive data management capabilities, such as (provide detailed information pertaining to your system):**							
30		**Sample and test load information (volumes, expiry, etc.)**							
31		**Bulk reagent storage, monitoring and management (waste, buffer, washing, etc.)**							
32		**Result review .**							
33		**Report formatting, viewing and printing**							
34		**Calibration and QC review and analysis**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
35		**Help and maintenance programs**							
36		**Possibility to request individual tests or pre-programmed profiles with a single click**							
37		**Specify test throughput for average 10 sample assay**							
38		**Capability to be configured to run tests in single or duplicate.**							
39		**Automatic test re-run in case of variation between the duplicate runs of more than a specified limit**							
40		**Flags for abnormal values**							
41		**Pre-programmed tests with possibility of user modification or addition. State maximum number of tests**							
42		**List all available tests according to the categories listed below. The information shall include test parameters such as: method, units, range, accuracy, linearity, on-board stability (number of days), calibration stability (number of days), packag**							
43		**e infor**							
44		**Antianemics**							
45		**Antiarrhythmics**							
46		**Antiasthmatics**							
47		**Antibiotics**							
48		**Anticonvulsants**							
49		**Bone metabolism**							
50		**Cardiac markers**							
51		**Chemistries**							
52		**Diabetes**							
53		**Drugs of abuse**							
54		**Endocrine function**							
55		**Ethanol**							
56		**Thyroid markers**							
57		**Immunoglobulins**							
58		**Proteins**							
59		**Toxoplasma**							
60		**Tumor markers**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
61		**Viruses**							
62		**Specify whether reagent is readily available for immediate use. If reconstitution is required, state method and required time**							
63		**Built-in automatic maintenance program, preferably zero user maintenance**							
64		**Internal troubleshooting (self diagnostic) software capability is an asset. Specify details. Computer connectivity for Bi-directional data, results and HIS including archiving capabilities.**							
65	**Compliance with standards & legislation:**								
66		**The system must comply with the Electrical safety standards for electrical safety IEC-60601**							
68		**All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.**							
69		**Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions**							
70		**All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.**							
مواصفات جهاز فحص الدم الاوتوماتيكي					0				
NO	**Automatic hematology Analyzer (cbc) complete blood cell counter**				0				
	Standard	**Requirements**							
	B-7	**Automatic hematology Analyzer (cbc) complete blood cell counter**	**1**						
		Principle: (Electrical Impedance Method- WBC / RBC / PLT, Colorimetric-HGB)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Reportable Parameters: (3 Part Differential, 23 Parameters - WBC, LYM#, MID#, GRA#, LYM MID%,GRA%, RBC,HGB, HCT,MCV, MCH, MCHC, RDW-SD, RDW-CV, PL MPV, PDW, PCT,P-LCR, WBC Histogram, RBC Histogram, PLT HistogramT)							
		Operating Platform:(Windows interface with mouse control)							
		Speed:(40-60 samples per hour) or more							
		Calibration: (Both Automatic and Manual Calibration mode. 3 sets of Calibration co -efficient for Whole Blood, Anti-coagulant Peripheral Blood and Pre-diluted Peripheral Blood.)							
		Quality Control : (3 QC Method; and X-R QC with appropriate QC Charts, Westgard)							
		Results: (Internal memory can store at liest 40,000 Test values with Histograms)							
		Printer / Display: (Inbuilt thermal printer with optional external printer, Color LCD, 9")							
		With COMPUTER & LIZER PRINTER & DATA PROGRAM							
		Interface: (1 Parallel, 2 USB, 1 RS232 serial port, 1 Lan, 1 PS2 Mouse, 1 PS2)							
		Power Supply / Input Power: (220 50 Hz)							
		Puke up UPS							
		2 Years comprehensive warranty, from the date of installation and commissioning.							
		Installation & Commissioning must be done by manufacturer engineer							
		Service Training for one MWC Bio-Engineer shall be provided within the first year of warranty							
		All the accessories will be supplied with system - Application manual , Service manual							
		Supplied With:							
		Main UPS for system Operations 100-220V							
		2 Spare Lamps							
		3 fuses for each unit.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Supplied With Complete Accessories.							
		Note:							
		Machine with close Or open system, should be offered with the cost of soluations & consumbles per Test for one Year.							
		Machine with close Or open system, should be put cost of soluations, consumbles per Test ,, No. of pateint's that we can test them by one kit's test time life of Kit test.							
		Depended of above we well choise the system.							
مواصفات جهاز فحص الدم					0				
NO	**Technical Specifications For HEMATOLOGY ANALYZER (CBC)**				0				
	Standard	**Requirements**							
LAB-1	**HEMATOLOGY ANALYZER (CBC)**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
4	**Design**	Compact , heavy duty and high quality							
5	**CLIA CLASSIFICATION**	To facility requirements							
6	**CONFIGURATION**	Benchtop							
7	**Intended area of use**	Laboratory							
8	**Automated/semiautomated**	Automated							
9	**METHOD USED**	Volumetric impedance							
10	**TEST MENU**								
11	**Basic hematology**	RBC, WBC, Hgb, Hct, MCV, RDW%, MCH, MCHC, Plt, MPV							
12	**WBC differentials**	**3-part differential: L# and %, M# and %, G# and % (required);**							
13	**Others**	P-LCR, P-LCC, PCT, PDW%, PDWa, RDWa							
14	**SAMPLE TYPE**	EDTA whole blood							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15	**SAMPLE VOLUME, µL**	<110 open mode, <300 closed tube autosampler mode, 20 prediluted or capillary blood application							
16	**THROUGHPUT, samples/hr**	PLEASE SPECIFY							
17	**Analysis time, sec**	<60							
18	**Sample capacity**	1							
19	**Start-up time, min**	5							
20	**SYSTEM FEATURES**								
21	**Auto dilution**	Yes							
22	**Counts/dilution**	2							
23	**Autosampler**	No							
24	**Closed-tube sampling**	Yes							
25	**Coincidence correct**	Yes							
26	**Adjustable threshold**	No							
27	**Histogram display**	Yes							
28	**Robotics capability**	No							
29	**APERTURE**								
30	**Number**	2							
31	**Size(s), µm**	80, 100							
32	**REAGENT TYPE**	Diluent, lyse, cleaner							
33	**ALERT INDICATORS**	Multiple data flags, diagnostic and reagent alerts							
34	**DATA MANAGEMENT**								
35	**Display, type**	Color LCD touchscreen							
36	**Data displayed**	Yes	**Data displayed**						
37	**HIS/LIS interface**	USB, Ethernet (HL7)							
38	**Data entry**	Optional bar-code reader							
39	**Data storage**	10,000 records							
40	**Printer**	Built-in thermal, optional external							
41	**CALIBRATION**	Automatic or manual							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
42	**QUALITY CONTROL**	24 QC lots, Levey-Jennings charts							
43	**POWER REQUIREMENTS**								
44	**Line power, VAC**	**100-240V 50/60Hz**							
45	**Reagents, per test**	**PLEASE SPECIFY**	**Reagents, per test**						
46	**Certification from the manufacturer:**								
46.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
46.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
46.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
46.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
46.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
46.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
46.7		Final operating test by manufacturer							
46.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
46.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
47	**Maintenance:**								
47.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
47.2		Service manual operation manual {Hardcopy & Softcopy}							
47.3		application software and interface connection Included.							
47.4		spare parts list with code NO							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
47.5		Including maintenance and calibration tools.							
48	**Power supplay**	100 to 240 V ~ ±10%, 50/60 Hz Single phase (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
49	**Other specification**	Please specify other specification							
مواصفات جهاز فحص الكيمياء شبه الاوتوماتيكي					0				
NO	**Semi- Automatic Bio-Chemistry Analyzer**				0				
	Standard	**Requirements**							
	B-8	**Semi- Automatic Bio-Chemistry Analyzer**	**1**						
		Semi- Automatic Programmable Chemistry analyzer.							
		Optical System is single beam grating.							
		Wave Length Range = 340 - 1100 nm.							
		7 selectable filters.or more							
		suction system.							
		Light Source =Tungesten or Halogen lamp.							
		Wave Length Accuracy = 1nm.or least							
		Photometric Modes: ABS, T% & Cons.							
		Stability = 0.001 ABS / Hour.							
		set automatically by press button.							
		max tests 50-70 test /hr							
		SAMPLE TYPE							
		Serum/plasma							
		Urine							
		CSF							
		SAMPLE SIZE, 2- 30 µL							
		TEST MENU, min							
		Acid phosphatase							
		Alanine transaminase (ALT)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Albumin							
		Aldolase							
		Alkaline phosphatase (ALP)							
		Amylase							
		Aspartate transaminase (AST)							
		Bilirubin (direct/total)							
		Blood urea nitrogen (BUN)							
		C3							
		C4							
		Calcium							
		Chloride							
		Cholesterol							
		Cholinesterase							
		Creatine kinase (CK)							
		Creatinine							
		CK-MB							
		CO2							
		CSF protein							
		GGT							
		Glucose							
		IgA							
		IgG							
		IgM							
		Inorganic phosphorus							
		Iron							
		Lactate dehydrogenase (LDH)							
		Magnesium							
		P-5-P							
		Potassium							
		Total protein							
		Sodium							
		Thyroxine (T4)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Tyroxine uptake (TU)							
		Triglycerides							
		Urea							
		Uric acid							
		Urine protein							
		Others							
		HBDH, lipase, neonatal bilirubin, RF, LD-1, ammonia, TIBC, LDL							
		PROGRAMMED 50-100 TESTS							
		USER-DEFINABLE TESTS							
		METHOD USED End point, rate, ISE OR Kinetic							
		REAGENTS, TYPE Liquid							
		Substitution							
		Refrigerated on board							
		SYSTEM FEATURES							
		Closed-tube sampling							
		Direct sampling							
		Liquid-level sensing							
		Clot detection							
		Auto dilution							
		Abnormal values flag							
		Auto verification							
		Auto zero.							
		Auto quality control							
		Auto calibration							
		DATA MANAGEMENT							
		digital reading (LCD Display).							
		Results stored for memory from 1GB-4 GB							
		Computer interface							
		Current LIS vendor interfaces							
		Printer							
		Bar-code reader							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Mains power 100V- 240V ±6% , 50 Hz British Standard 3 Pin Power Plug / Cable							
		All the accessories will be supplied with system - Application manual , Service manual							
		3-5 Years comprehensive warranty, from the date of installation and commissioning.							
		Installation & Commissioning must be done by manufacturer engineer							
		Service Training for one MWC Bio-Engineer shall be provided within the first year of warranty							
		Supplied With:							
		Main UPS for system Operations 100-220V							
		2 Spare Lamps							
		3 fuses for each unit.							
		Supplied With Complete Accessories.							
مواصفات جهاز الكيمياء الاوتوماتيكي					0				
NO	**CLINICAL CHEMISTRY ANALYZER AUTOMATED**				0				
	Standard	**Requirements**							
LAB-2	**CLINICAL CHEMISTRY ANALYZER AUTOMATED**								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
4	**Design**	Compact , heavy duty and high quality							
5	**CONFIGURATION**	Floor OR BENCHTOP							
6	**Connection to LAS track**	Yes							
7	**Processing modes**	Continuous OR RANDOM ACCESS							
8	**System capacity**	To facility requirements							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
9	**CLIA CLASSIFICATION**	PLEASE SPECIFY							
10	**THROUGHPUT, max tests/hr**	To facility requirements							
11.1	**SAMPLE TYPE**								
11.2	**Whole blood**	Yes							
11.3	**Serum/plasma**	Required							
11.4	**Urine**	Required							
11.5	**CSF**	Required							
12	**SAMPLE SIZE, µL**	Smaller sample size							
13	**PRECISION, % CV**	PLEASE SPECIFY							
14	**TEST MENU, min**								
14.1	**Acid phosphatase**	Yes							
14.2	**Alanine transaminase (ALT)**	Required							
14.3	**Albumin**	Required							
14.4	**Aldolase**	Yes							
14.5	**Alkaline phosphatase (ALP)**	Required							
14.6	**Amylase**	Yes							
14.7	**Aspartate transaminase (AST)**	Required							
14.8	**Bilirubin (direct/total)**	Required							
14.9	**Blood urea nitrogen (BUN)**	Required							
14.1	**C3**	Yes							
14.11	**C4**	Yes							
14.12	**Calcium**	Required							
14.13	**Chloride**	Required							
14.14	**Cholesterol**	Required							
14.15	**Cholinesterase**	Yes							
14.16	**Creatine kinase (CK)**	Required							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
14.17	**Creatinine**	Required							
14.18	**CK-MB**	Yes							
14.19	**CO2**	Required							
14.2	**CSF protein**	Yes							
14.21	**Fibrinogen**	Yes							
14.22	**GGT**	Yes							
14.23	**Glucose**	Required							
14,24	**HbA1c**	Yes							
14.25	**Homocysteine**	Yes							
14.26	**IgA**	Yes							
14.27	**IgG**	Yes							
14.28	**IgM**	Yes							
14.29	**Inorganic phosphorus**	Required							
14.3	**Iron**	Required							
14.31	**Lactate dehydrogenase (LDH)**	Required							
14.32	**Lipase**	Yes							
14.33	**Magnesium**	Required							
14.34	**Microalbumin**	Yes							
14.35	**P-5-P**	Yes							
14.36	**Potassium**	Required							
14.37	**Total protein**	Required							
14.38	**Transferrin**	Yes							
14.39	**Sodium**	Required							
14.4	**Thyroxine (T4)**	Yes							
14.41	**Thyroxine uptake (TU)**	Yes							
14.42	**Triglycerides**	Required							
14.43	**Urea**	Required							
14.44	**Uric acid**	Required							
14.45	**Urine protein**	Yes							
14.6	**Others**	PLEASE SPECIFY							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15	**Drug assays**	Yes							
15.1	**Acetaminophen**	Yes							
15.2	**Amphetamine**	Yes							
15.3	**Barbiturates**	Yes							
15.4	**Benzodiazepine**	Yes							
15.5	**Cannabinoids**	Yes							
15.6	**Cocaine metabolites**	Yes							
15.7	**Digoxin**	Yes							
15.8	**Ethanol**	Yes							
15.9	**Gentamicin**	Yes							
15.1	**Lidocaine**	Yes							
15.11	**Methadone**	Yes							
15.12	**Methaqualone**	Yes							
15.13	**Opiates**	Yes							
15.14	**Phenobarbitals**	Yes							
15.15	**Phenytoin**	Yes							
15.16	**Salicylate**	Yes							
15.17	**Theophylline**	Yes							
15.8	**Others**	PLEASE SPECIFY							
16	**PROGRAMMED TESTS**	Unlimited							
17	**USER-DEFINABLE TESTS**	Optional							
18	**METHOD USED**	Photometric, potentiometric OR END POINT MULTI POINT							
19	**Optical system**	PLEASE SPECIFY							
20	**Light source**	LED OR halogen							
21	**REAGENTS, TYPE**	Liquid							
22	**Substitution**	Yes							
23	**Refrigerated onboard**	Yes							
24	**SYSTEM FEATURES**								
24.1	**Closed-tube sampling**	Preferred							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
24.2	**Direct sampling**	Optional							
24.3	**Liquid-level sensing**	Yes							
24.4	**Clot detection**	Yes							
24.5	**Auto dilution**	Preferred							
24.6	**Abnormal values flag**	Required							
24.7	**Auto verification**	Preferred							
24.8	**Auto quality control**	Yes							
24.9	**Auto calibration**	Required							
25	**DATA MANAGEMENT**								
25.1	**Display**	LCD Touchscreen							
25.2	**Results stored**	Yes							
25.3	**Computer interface**	Required							
25.4	**Current LIS vendor interfaces**	Yes							
25.5	**Printer**	Yes							
25.6	**Bar-code reader**	Preferred							
26	**INCUBATOR**								
26.1	**Configuration**	PLEASE SPECIFY							
26.2	**Capacity, tubes**	PLEASE SPECIFY							
26.3	**Backup**	Yes							
27	**WATER REQUIREMENTS, L/hr**	PLEASE SPECIFI							
28	**Onboard supply**	Yes							
29	**Certification from the manufacturer:**								
29.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
29.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
29.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
29.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
29.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
29.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
29.7		Final operating test by manufacturer							
29.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
29.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
30	**Maintenance:**								
30.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
30.2		Service manual operation manual {Hardcopy & Softcopy}							
30.3		application software and interface connection Included.							
30.4		spare parts list with code NO							
30.5		Including maintenance and calibration tools.							
31	**Power supplay**	100 to 240 V ~ ±10%, 50/60 Hz Single phase (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
32	**Other specification**	Please specify other specification							
مواصفات جهاز					0				
NO					0				
	Standard	**Requirements**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز تحليل الشوادر					0				
NO	ELECTROLYTE ANALYZER				0				
	Standard	Requirements							
LAB-3	ELECTROLYTE ANALYZER								
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE marking. Certificate of prodect tradding in the european union or USA							
		Should be FDA or CE approved product							
1		**Fully automated, microprocessor controlled, table-top electrolytes analyzer for whole blood, plasma, serum and urine samples**							
4	**Design**	Compact , heavy duty and high quality							
24		The system should incoporate the following features: Display, printer, bar code reader							
	Specifications:	**Specifications:**							
5	**METHOD USED**	please specify							
		Based on ISE method.(Ion Selective Electrode)							
6	**SAMPLE TYPE**	Whole blood, plasma, serum, dialysate, diluted urine							
		Sample type: Serum, CSF, Plasma and Urine.							
7	**SAMPLE VOLUME, µL**	please specify							
		Sample volume: should be less than 120 ul.							
		The Analyser should be able to measure : K+, Na+, Cl-, iCa2+, pH, Li+, customized selection of ions.							
8	**AUTOSAMPLER**	Yes							
		Auto sampling, washing, calibration							
9	**Closed/open tube**	Closed							
		Open reagent, real time monitoring reagent							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10	**Stat interrupt**	Yes							
11	**VISIBLE SAMPLE CHAMBER**	Yes							
12	**ANALYSIS TIME, sec**	please specify							
5		Aanalysis time < = 60 sec							
13	**THROUGHPUT, samples/hr**	To facility requirements							
		Throughput: 60 samples per hour							
4		Throughput shall be more than 60 samples/hr							
19		Specify test throughput (analysis time) from “READY” state as well as start up time from off to ready							
14	**ASSAY RANGE, mmol/L**								
15	**Teste**								
6		Measured electrolytes (Specify measurement range, units, accuracy as well as any other relevant information):							
7		Na							
15.1	**Na**	Yes							
15.2	**Serum/plasma**	Yes							
8		Serum/Plasma:40 250 or better							
15.3	**Urine**	Yes							
9		Urine: 10-300 or better							
15.4	**K**	Yes							
10		K: 50-200 or better							
15.6	**Serum/plasma**	Yes							
11		Serum/Plasma : 0.5-15 or better							
15.7	**Urine**	Yes							
12		Urine: 2-150 or better							
15.8	**Cl**	Yes							
13		Cl							
15.9	**Serum/plasma**	Yes							
14		Serum/Plasma: 50-200							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15.1	**Urine**	Yes							
15		Urine: 15-300 or better							
15.11	**Other assays**	iCa, nCa, TCa, pH, Li, Mg, TCO2, AG							
16		Calcium: 0.1-6							
17		Li: 0.1-5							
16	**AUTOMATIC WASH**	Yes							
18		Automatic washing capability. Specify parameters.							
17	**CALIBRATION**								
18	**Type**	Automatic							
19	**Frequency**								
20		Automatic calibration. State levels, schedule (or time interval) and duration. Calibration interruption for STAT samples							
20	**REAGENTS FROM MANUFACTURER**	Yes							
21	**Substitution**	Yes							
		Should have economy mode to save ReagentsConsumption.							
		Low reagent consumption							
		Maintenance –free electrodes, 12 months lifespan							
		Should have Single Module for all Reagents &Waste.							
22	**DISPLAY**	LCD							
		Display: LCD							
2		To incorporate a LCD screen and alphanumeric keyboard for user interfacing. Provide detailed specs (touch control, size, color or mono, resolution, etc.)							
23	**PRINTER**	Built-in thermal							
		Should have In-Built Thermal Printer.							
3		To incorporate a built-in thermal printer. Provide detailed specs.							
24	**BAR-CODE READER**	Yes							
25	**DATA MANAGEMENT**	Yes							
23		Data management capabilities							
		Built in QC analysis software – Levi Jening graph.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Storage: Up to 50,000 results							
		Should have option to feed Patient Name and Patient ID.							
21		Internal troubleshooting (self diagnostic) software capability is an asset. Specify details.							
26	**INTERFACE**	Yes							
		Interface: RS-232, support LIS							
22		RS232 interface							
27	**POWER SUPPLY, VAC**	100-240V							
28	**Frequency, Hz**	50/60 Hz							
		Power requirments: 220V/50Hz							
31	**Power supplay**	100 to 240 V ~ ±10%, 50/60 Hz Single phase (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
		Sullpied with all accessories, if any must be included to put the system in to fully operational.							
31		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
30		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
29	**Certification from the manufacturer:**								
25		Shall specify the exact dimension and weight for the offered equipment							
26		Compliance with standards & legislation:							
27		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
28		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
29		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
29.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
29.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
29.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
29.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
29.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
29.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
29.7		Final operating test by manufacturer							
29.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
29.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
30	**Maintenance:**								
30.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
30.2		Service manual operation manual {Hardcopy & Softcopy}							
30.3		application software and interface connection Included.							
30.4		spare parts list with code NO							
30.5		Including maintenance and calibration tools.							
32	**Other specification**	Please specify other specification							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات تحليل وفحص السكر التراكمي					0				
NO	GLYCOHEMOGLOBIN ANALYZERS				0				
	Standard	**Requirements**							
LAB-4	GLYCOHEMOGLOBIN ANALYZERS								
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard	FDA approval or CE marking							
	Design	Compact , heavy duty and high quality							
	REFERENCE METHOD	please specify							
	ASSAYS								
	Hemoglobin A1c	Yes							
	Hemoglobin A1	NO							
	Total GHb	NO							
	Others	please specify							
	REAGENTS								
	Supplied by manufacturer	Yes							
	Refrigerated onboard	Yes							
	CONFIGURATION	Benchtop OR floor							
	Sample capacity	specify							
	Autosampler	Yes							
	ANALYSIS RATE, min	PLEASE SPECIFY (smaller sample volume preferred)							
	SAMPLE TYPE	Whole blood, hemolysate, diluted blood, capillary, EDTA/heparin blood, fingerstick, other							
	SAMPLE VOLUME, µL	To facility requirements (smaller sample volume preferred)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	HEMOLYSATE VOL, µL	specify							
	TEST METHOD	specify							
	DETECTION								
	Wavelengths, nm	specify							
	COLUMN, ID x L	specify							
	Lifetime	specify							
	COMPUTER INTERFACE	Yes							
	LIS INTERFACE	Yes							
	BAR-CODE READER	Yes							
	DATA STORAGE	Yes							
	PRINTER	Required if analyzer does not have a computer interface							
	LINE POWER, VAC	100-240V, 50/60Hz							
	BATTERY, TYPE	UPS ON LINE							
	Certification from the manufacturer:								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Final operating test by manufacturer							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
	Maintenance:								
		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
		Service manual operation manual {Hardcopy & Softcopy}							
		application software and interface connection Included.							
		spare parts list with code NO							
		Including maintenance and calibration tools.							
	Power supplay	100 to 240 V ~ ±10%, 50/60 Hz Single phase (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
	Other specification	Please specify other specification							
مواصفات تحليل البول الاوتوماتيكي					0				
NO	**AUTOMATED URINE ANALYZER**				0				
	Standard	**Requirements**							
LAB-5	**AUTOMATED URINE ANALYZER**								
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard	FDA approval or CE marking							
	Design	Compact , heavy duty and high quality							
	METHODOLOGY	PLESE SPECIFY							
	CHEMICAL TESTS								
	Ascorbic acid	Yes							
	Bilirubin	Yes							
	Blood	Yes							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Glucose	Yes							
	Ketone body	Yes							
	Leukocyte esterase	Yes							
	Nitrite	Yes							
	pH	Yes							
	Protein	Yes							
	Specific gravity	Yes							
	Urobilinogen	Yes							
	SAMPLE VOLUME, mL	Smaller sample volume preferred							
	SPECIMEN CAPACITY	100 AT LEAST							
	Throughput/hr	200 AT LEAST							
	REAGENT TYPE	PLEASE SPECIFY							
	REAGENTS FROM MANUFACTURER	Yes							
	MICROSCOPIC ANALYSIS								
	HISTOGRAM ANALYSIS	PLEASE SPECIFI							
	DATA MANAGEMENT								
	LIS interface	Required							
	Bi-/Unidirectional	Bidirectional							
	Bar-code reader	Required							
	Data storage	Required							
	REPORT DISPLAY								
	Monitor	LCD							
	Printer	External printer and thermal printer							
	CALIBRATION	PLEASE SPECIFY							
	Frequency	PLEASE SPECIFY							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	QUALITY CONTROL	YES							
	LINE POWER, VAC	100-240V 50/60 Hz							
	Certification from the manufacturer:								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Final operating test by manufacturer							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
	Maintenance:								
		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
		Service manual operation manual {Hardcopy & Softcopy}							
		application software and interface connection Included.							
		spare parts list with code NO							
		Including maintenance and calibration tools.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Power supplay	100 to 240 V ~ ±10%, 50/60 Hz Single phase (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
	Other specification	Please specify other specification							
مواصفات اجهزة الميكروسكوب بالمختبر					0				
NO	**MICROSCOPE LIGHT LABORATORY**				0				
	Standard	**Requirements**							
LAB-7	**MICROSCOPE LIGHT LABORATORY**								
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard	FDA approval or CE marking+C2061							
	Design	Compact , heavy duty and high quality							
	Binocular	Yes							
	Trinocular	PLEASE SPICIFY							
	Focal length of objective, mm	180 OR BETTER							
	Eyepieces	PLEASE SPECIFY							
	Interpupillary distance adjustment, mm	Adjustable							
	NOSEPIECE CONFIGURATION	Quadruple or better							
	Objectives magnification	10x; 40x; 100x (oil)							
	Objectives type	Achromatic OR Plan achromatic THIS IS UP TO USER REQUIRMENTS							
	TOTAL MAGNIFICATION	PLEASE SPECIFI							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	CONTRAST METHODS								
	Brightfield	Yes							
	Darkfield	Yes							
	Fluorescence	Yes							
	Phase	Yes							
	Polarization	Yes							
	Filter								
	Color(s)								
	ILLUMINATION								
	Condenser type	Built-in							
	Numerical aperture	SPECIFY							
	Light source	HALOGEN							
	STAND								
	Focusing mechanism	Moving stage							
	Coarse, fine adjustments	Coaxial coarse and fine adjustment							
	STAGE								
	Type	Mechanical							
	Tension adjustment	Coaxial							
	Motion	X-Y							
	ACCESSORIES								
	Adapter(s)								
	Camera	YES							
	Cabinet								
	Dust cover	YES							
	Warranty	Minimum of 2 years							
مواصفات اجهزة الميكروسكوب بالمختبر					0				

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
NO	BINOCULAR MICROSCOPE EPI FLUORESCENCE				0				
	Standard	Requirements							
1		The microscope unit shall incorporate advanced technology and optics components for use in Fluorescence based medical laboratory applications							
2		Dual inclined binocular tubes with adjustable (0 to 35°) angle (side by side configuration)							
3		Adjustable inter-pupillary distance ~ 50 – 75 mm. Specify exact range.							
4		Dual eyepieces 10x with diopter adjustment of ~ +/-5 D, compensating for any visual differences.							
5		Color coded plan achromat bright field objectives for easy and rapid identification:							
6		4x (NA ~ 0.1)							
7		10x (NA ~ 0.25)							
8		20x(NA ~ 0.35)							
9		40x (NA ~ 0.65, spring loaded)							
10		100x (NA ~ 1.25, spring loaded, oil immersed)							
11		Plan apochromat and semi apochromat objectives shall be offered as option, priced separately							
12		Sextuple rotating objective nose-piece, with ball bearing mechanism and stop locator when in the correct position.							
13		With a slot for analyzer							
14		Sub stage of ~ 14 cm x 16 cm							
15		Rack and pinion adjustable height, with bilateral coaxial focus.							
16		Fine adjustment, in 2 micron steps							
17		Coarse adjustment up to 30 mm or better.							
18		Slide holder (stage) with incorporated scale of 0.1 mm							
19		To incorporate smooth X (~ 50 mm) and Y (~ 75 mm) movement (specify exact range).							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
20		Halogen illumination: 100W							
21		Swing out achromatic condenser for objectives 1.6x to 100x							
22		Stage micrometer							
23		Polarizer and analyzer filter for transmitted light. Daylight blue filter and two 25% neutral gray filters							
24		Thermal compensation of focus drift							
25		Digital photomicrography shall be offered as option, priced separately. As well as all other imaging options (video and still). Detailed technical specifications shall be provided.							
26		The offer shall include Epi-fluorescence set, including all parts and accessories (UV objective options, filters, filter slide, etc.). All parts shall be detailed. Options priced separately.							
27		Compliance with standards & legislation:							
28		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
29		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
30		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
31		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
32		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
مواصفات جهاز السنترفيوج					0				
NO	CENTRIFUGE TABLETOP				0				

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking							
		CENTRIFUGE 00 TUBES TABLE TOP							
2		Manually adjustable parameters as well as user programming capability. State number of user defined programs and programmable parameters such as speed, time, acceleration, rotor type, brake, etc..							
4	**Design & quality**	Compact , heavy duty and high quality							
1		To incorporate digital display for speed (actual and set), RCF and time, as well as other operating indicators such as lid locked, door closed/open, status, etc. (list details)							
5	**ROTATIONAL SPEED**								
5 .1	**Maximum revolutions per minute (RPM)**	6000 AT LEAST							
3		Variable centrifugation speed up to ~ 6000 rpm							
5 .2	**RPM increments**	10 OR MORE							
4		Variable acceleration with acceleration and brake ramping. Specify range.							
5 .3	**Maximum relative centrifugal force (RCF), g**	1100 OR MORE							
5		Variable Relative Centrifugation Force. Specify range.							
7		Acceleration/deceleration specs should be provided.							
6	**ROTORS AVAILABLE**								
6 .1	**Horizontal (swinging bucket)**	Yes							
8		Swing out rotor with four buckets (and corresponding inserts) that can be used as open or closed. Sealing lid shall be included for each bucket.							
6 .2	**Fixed angle**	Yes							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
6 .3	**Microhematocrit**	Yes							
7	**CAPACITY**								
7 .1	**Maximum number of tubes and volumes**	6 (2,000 mL) OR MORE							
9		Rotator tube capacity up to 24 tubes							
8	**TEMPERATURE**								
10		To incorporate air circulation system to prevent excessive temperature increase within the centrifugation chamber							
8 .1	**Range, °C**	PLEASE SPECIFY							
8 .2	**Accuracy, °C**	2							
9	**TIMER**								
9 .1	**Range, min**	1-999 min 59 sec							
6		Variable timer up to 60 min or better as well as continuous operation							
9 .2	**Settings**	Timed, continuous, pulse (burst)							
9 .3	**BRAKING, type**	Electric							
9 .4	**Settings**	9 OR LESS							
9 .5	**Brake time, sec**	rotor dependent. PLEASE SPECIFY							
11		The unit shall possess advanced features and characteristics, especially those relating to sample and user safety. These features shall include but not be limited to:							
12		Brushless induction drive							
9 .6	**BRUSH/BRUSHLESS**	Brushless							
10	**SAFETY FEATURES**								
15		Internal safety chamber (steel or similar) between the bowl and outer case							
10 .1	**Lid interlock**	Yes							
13		SS bowl and lid interior							
14		Easily removable rotor for cleaning the bowl							
11	**ALERT INDICATORS**								
18		Rubber positioning feet to prevent the unit from slipping							
11 .1	**Centrifuge lid open**	Yes							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
19		Lid opening prevention mechanism when the rotor is turning							
20		Emergency stop capability							
11 .2	**Imbalance**	Yes							
21		Rotor imbalance detection system							
11 .3	**End of run**	Yes							
11 .4	**Overspeed**	Yes							
11 .5	**Other**	PLEASE SPECIFY							
11 .6	**DISPLAY, type**	LCD							
11 .7	**Parameters displayed**	RPM, run time							
22		Audiovisual alarm with identification of problem or error code for easy troubleshooting. List all alarms.							
11 .8	**Lock icon**	Yes							
23		Electromagnetic lid locking system with power fail manual override							
11 .9	**PROGRAMMABLE**	SPECIFY							
11 .10	**SELF-DIAGNOSTICS**	Yes							
24		Each of the following additional features will be considered as an asset during evaluation of the offered unit. State availability as well as characteristics where applicable:							
25		Pulse button							
26		Automatic rotor identification and verification with auto program							
27		Over speed detection system							
28		Shall accept tube Sizes 12, 15 and16 ML							
12	**Recommended cleaners/disinfectants**	Ethanol, n-propanol, ethyl hexanol, anionic tensides, corrosion inhibitors							
13	**NOISE LEVEL, Db**	**≤62, OR LESS (rotor dependent)**							
16		Insulated interior for noiseless and vibration-free operation. Specify noise level.							
17		Smooth, low noise motor (state motor suspension method)							
14	**LINE POWER, VAC**	**100-240, 50/60 Hz**							
	Warranty	Minimum of 2 years							
29		Compliance with standards & legislation:							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
30		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
31		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
32		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
33		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
34		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
		مواصفات سنترفيوج صبغة الدم			0				
NO		HEMATOCRIT CENTRIFUGE			0				
	Standard	Requirements							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA approval or CE marking Product circulation certificate in Europe and the United States of America							
		HEMATOCRIT CENTRIFUGE (CENTRIFUGE 24 TUBES TABLE TOP)							
2		Manually adjustable parameters as well as user programming capability. State number of user defined programs and programmable parameters such as speed, time, acceleration, rotor type, brake, etc..							
4	**Design & quality**	Compact , mobail, heavy duty and high quality							
1		To incorporate digital display for speed (actual and set), RCF and time, as well as other operating indicators such as lid locked, door closed/open, status, etc. (list details)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5	**ROTATIONAL SPEED**								
5.1	**Revolutions per minute (RPM) range**	Per facility requirements							
3		Variable centrifugation speed up to ~ 6000 rpm							
5.2	**RPM increments**	PLEASE SPECIFY							
4		Variable acceleration with acceleration and brake ramping. Specify range.							
5.3	**RPM accuracy**	±10%							
5.4	**Relative centrifugal force (RCF) range**	16,060 OR BETTER							
5		Variable Relative Centrifugation Force. Specify range.							
5.5	**RCF increments**	PLEASE SPECIFY							
5.6	**ROTOR RADIUS, cm**	≥8							
6	**ROTORS AVAILABLE**								
6 .1	**Horizontal (swinging bucket)**	Per facility requirements							
8		Swing out rotor with four buckets (and corresponding inserts) that can be used as open or closed. Sealing lid shall be included for each bucket.							
6 .2	**Fixed angle**	Per facility requirements							
6 .3	**Adapters available**	SPECIFY							
6 .4	**Others**	SPECIFT							
6 .5	**ROTOR IDENTIFICATION**	SPECIFI							
7	**CAPACITY**								
7 .1	**Maximum number of capillary tubes**	24 AT LEAST							
9		Rotator tube capacity up to 24 tubes							
28		Shall accept tube Sizes 12, 15 and16 ML							
7 .2	**Capillary tube sizes, mm**	2.2							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7 .3	**Maximum number of microtubes**	SPECIFY							
7 .4	**Microtube sizes, mm**	SPECIFY							
8	**TIMER**								
8 .1	**Range, min**	0 to ≥60							
6		Variable timer up to 60 min or better as well as continuous operation							
8 .2	**Increments**	1 sec, 1 min							
7		Acceleration/deceleration specs should be provided.							
8 .3	**Accuracy**	1 sec							
8 .4	**BRAKING, type**	Electric							
8 .5	**Settings**	2							
8 .6	**Brake time, sec**	SPECIFY							
8 .7	**BRUSH/BRUSHLESS**	Brushless							
11		The unit shall possess advanced features and characteristics, especially those relating to sample and user safety. These features shall include but not be limited to:							
12		Brushless induction drive							
9	**SAFETY FEATURES**								
9 .1	**Lid interlock**	Yes							
9 .2	**Rotor lid lock**	Yes							
13		SS bowl and lid interior							
14		Easily removable rotor for cleaning the bowl							
15		Internal safety chamber (steel or similar) between the bowl and outer case							
18		Rubber positioning feet to prevent the unit from slipping							
23		Electromagnetic lid locking system with power fail manual override							
10	**ALERT INDICATORS**								
22		Audiovisual alarm with identification of problem or error code for easy troubleshooting. List all alarms.							
10 .1	**Centrifuge lid open**	Visual and audible							
19		Lid opening prevention mechanism when the rotor is turning							
10 .2	**Imbalance**	Visual and audible							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
21		Rotor imbalance detection system							
10 .3	**End of run**	Visual							
10 .4	**Overspeed**	Visual							
20		Emergency stop capability							
10 .5	**Other**	SPECIFY							
10 .6	**DISPLAY, type**	Touchscreen							
10 .7	**Parameters displayed**	RPM, RCF, run time							
10 .8	**Lock icon**	Yes							
10 .9	**PROGRAMMABLE**	Yes							
10 .10	**Rotational speed, RPM/RCF**	SPECIFY							
10 .11	**Temperature**	SPECIFY							
10		To incorporate air circulation system to prevent excessive temperature increase within the centrifugation chamber							
10 .12	**Braking**	SPECIFY							
10 .13	**Alerts**	SPECIFY							
10 .14	**SELF-DIAGNOSTICS**	Yes							
24		Each of the following additional features will be considered as an asset during evaluation of the offered unit. State availability as well as characteristics where applicable:							
25		Pulse button							
26		Automatic rotor identification and verification with auto program							
27		Over speed detection system							
11	**NOISE LEVEL, dB**	**≤70**							
16		Insulated interior for noiseless and vibration-free operation. Specify noise level.							
17		Smooth, low noise motor (state motor suspension method)							
12	**Recommended cleaners/disinfectants**	Ethanol, n-propanol, ethyl hexanol, anionic tensides, corrosion inhibitors							
13	**LINE POWER, VAC**	**100-240V 50/60 HZ**							
	Warranty	Minimum of 2 years							
29		Compliance with standards & legislation:							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
30		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
31		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
32		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
33		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
34		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
مواصفات جهاز السنترفيوج					0				
NO	CENTRIFUGE TABLETOP				0				
	Standard	Requirements							
		CENTRIFUGE 48 TUBES TABLE TOP							
1		**To incorporate digital display for speed (actual and set), RCF and time, as well as other operating indicators such as lid locked, door closed/open, status, etc. (list details)**							
2		**Manually adjustable parameters as well as user programming capability. State number of user defined programs and programmable parameters such as speed, time, acceleration, rotor type, brake, etc..**							
3		**Variable centrifugation speed up to ~ 6000 rpm**							
4		**Variable acceleration with acceleration and brake ramping. Specify range.**							
5		**Variable Relative Centrifugation Force. Specify range.**							
6		**Variable timer up to 60 min or better as well as continuous operation**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7		Acceleration/deceleration specs should be provided.							
8		Swing out rotor with four buckets (and corresponding inserts) that can be used as open or closed. Sealing lid shall be included for each bucket.							
9		Rotator tube capacity up to 48 tubes							
10		To incorporate air circulation system to prevent excessive temperature increase within the centrifugation chamber							
11		The unit shall possess advanced features and characteristics, especially those relating to sample and user safety. These features shall include but not be limited to:							
12		Brushless induction drive							
13		SS bowl and lid interior							
14		Easily removable rotor for cleaning the bowl							
15		Internal safety chamber (steel or similar) between the bowl and outer case							
16		Insulated interior for noiseless and vibration-free operation with NOISE LEVEL < 55 dB							
17		Smooth, low noise motor (state motor suspension method)							
18		Rubber positioning feet to prevent the unit from slipping							
19		Lid opening prevention mechanism when the rotor is turning							
20		Emergency stop capability							
21		Rotor imbalance detection system							
22		Audiovisual alarm with identification of problem or error code for easy troubleshooting. List all alarms.							
23		Electromagnetic lid locking system with power fail manual override							
24		Each of the following additional features will be considered as an asset during evaluation of the offered unit. State availability as well as characteristics where applicable:							
25		Pulse button							
26		Automatic rotor identification and verification with auto program							
27		Over speed detection system							
28		Shall accept tube Sizes 12, 15 and16 ML							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
29		Compliance with standards & legislation:							
30		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
31		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
32		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
33		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
34		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
مواصفات جهاز الماء					0				
NO	BATH WATER 3 - 5 L				0				
	Standard	Requirements							
1		Double layer SS bath, SS exterior case							
2		Heating element shall be embedded in a corrosion and wear resistant material. Provide details.							
3		The unit shall incorporate a main power ON/OFF switch with visual indicator lights for power ON and heater ON							
4		Variable temperature range from ~ 5° C above ambient to 100° C or better							
5		1° C resolution							
6		Clear digital display of set water temperature							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7		Clear digital display of actual water temperature							
8		Electronically controlled temperature regulation. State accuracy							
9		Tank capacity up to 5 liters. The tank shall incorporate a drainage tab							
10		Safeties should include but not be limited to:							
11		Overheating/over-temperature shutdown							
12		Insufficient water level shutdown							
13		Electrocution protection							
14		Mechanism to prevent unintentional temperature setting change							
15		The offer shall include the following accessories:							
16		SS gable lid with plastic carrying handle							
17		External thermometer holder, compatible with the lid stated above							
18		Support platform for Erlenmeyer flasks							
19		Adapter clips (all available sizes shall be included)							
20		Support frame for tube racks							
21		Tube racks (all available sizes shall be included)							
22		Compliance with standards & legislation:							
23		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
24		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
25		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
26		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
27		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز الماء					0				
NO	BATH WATER 10 - 15 L				0				
	Standard	Requirements							
1		Double layer SS bath, SS exterior case							
2		Heating element shall be embedded in a corrosion and wear resistant material. Provide details.							
3		The unit shall incorporate a main power ON/OFF switch with visual indicator lights for power ON and heater ON							
4		Variable temperature range from ~ 5° C above ambient to 100° C or better							
5		1° C resolution							
6		Clear digital display of set water temperature							
7		Clear digital display of actual water temperature							
8		Electronically controlled temperature regulation. State accuracy							
9		Tank dimensions up to 15 liters . The tank shall incorporate a drainage tab							
10		Safeties should include but not be limited to:							
11		Overheating/over-temperature shutdown							
12		Insufficient water level shutdown							
13		Electrocution protection							
14		Mechanism to prevent unintentional temperature setting change							
15		The offer shall include the following accessories:							
16		SS gable lid with plastic carrying handle							
17		External thermometer holder, compatible with the lid stated above							
18		Mercury thermometer for visual thermal verification suitable for positioning with the holder listed above.							
19		Reading shall be possible with or without the lid in place.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
20		**The temperature range shall be the same as the bath heating range (~ 30 to 100° C)**							
21		**Perforated shell to be placed in the base of the bath above the heating element**							
22		**Support platform for Erlenmeyer flasks**							
23		**Adapter clips (all available sizes shall be included)**							
24		**Support frame for tube racks**							
25		**Tube racks (all available sizes shall be included)**							
26		**Compliance with standards & legislation:**							
27		**The system must comply with the Electrical safety standards for electrical safety IEC-60601**							
28		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
29		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
30		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
31		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز الماء					0				
NO	BATH WATER SEROLOGICAL				0				
	Standard	Requirements							
1		Double layer SS bath, SS exterior case							
2		Heating element shall be embedded in a corrosion and wear resistant material. Provide details.							
3		The unit shall incorporate a main power ON/OFF switch with visual indicator lights for power ON and heater ON							
4		Variable temperature range from ~ 5° C above ambient to 100° C or better							
5		1° C resolution							
6		Clear digital display of set water temperature							
7		Clear digital display of actual water temperature							
8		Electronically controlled temperature regulation.							
9		ACCURACY: ~ 2° C @ 37° C							
10		SENSITIVITY: ~ 1° C @ 37° C							
11		Tank dimensions ~ 15 cm x 50 cm x 35 cm (H x W x D). Around 20 L. The tank shall incorporate a drainage tab							
12		Safeties should include but not be limited to:							
13		Overheating/over-temperature shutdown							
14		Insufficient water level shutdown							
15		Electrocution protection							
16		Mechanism to prevent unintentional temperature setting change							
17		The offer shall include the following accessories:							
18		SS gable lid with plastic carrying handle							
19		External thermometer holder, compatible with the lid stated above							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
20		**Mercury thermometer for visual thermal verification suitable for positioning with the holder listed above.**							
21		**Reading shall be possible with or without the lid in place.**							
22		**The temperature range shall be the same as the bath heating range (~ 30 to 100° C)**							
23		**Perforated shell to be placed in the base of the bath above the heating element**							
24		**Support platform for Erlenmeyer flasks**							
25		**Adapter clips (all available sizes shall be included)**							
26		**Support frame for tube racks**							
27		**Tube racks (all available sizes shall be included)**							
28		Compliance with standards & legislation:							
29		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
30		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
31		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
32		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
33		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز تحلية الماء					0				
NO	Water Softener				0				
	Standard	Requirements							
	Water Softener								
1	Manufacturer	Please specify manufacturer and country of origin.							
2	Model number	Please specify model number.							
3	Safety standard	FDA Approval or CE Marking							
4	Application	Supply soft water to the equipment in the CSSDs.							
5	Control	Fully automatic regeneration with timer control.							
6	Capacity	90000 grain							
7	Material of construction	Fiber glass or equivelant							
8	Flow rate	25 GPM Approx.out put connection size 11/4 inch.							
9	Operating pressure	10 bar							
10	Salt storage tank	Included ,with float and over flow connection.							
11	Power supply	220 V ,50 HZ							
12	Accessories	- sand sediment caterage filter 20 inch rigid housing ,11/4 inch connection. - Carbon caterage filter ,20 inch rigid housing ,11/4 inch connection. - Stainless steel fully automatic pump, approx. 1 hp Qty. (2). Controlled in operation with pressure switch, including pressure gauge, base and by pass connection. - all pipes and fitting for installation from the nearest point.							

اجهزة قسم بنك الدم

Blood Bank Department

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
اجهزة قسم بنك الدم									
	Blood Bank Department								
مواصفات اجهزة بنك الدم					0				
NO	BLOOD BANK REFERIGERATED CENTRIFUGE				0				
	Standard	**Requirements**							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**								
3.1	FDA Approval	Required							
3.2	CE marking	Required							
1		To incorporate digital display for speed (set and actual) and time, as well as other operating indicators such as lid locked, door closed/open, status, temperature.							
2		Manually adjustable parameters as well as user programming capability. State number of user defined programs and programmable parameters such as speed, time, acceleration, rotor type, brake, etc..							
4	**Design**	Compact , heavy duty and high quality floor stand							
5	**ROTATIONAL SPEED**								
5.1	Revolutions per minute (RPM) range	10000 OR BETTER							
3		Variable centrifugation speed up to ~ 5000 rpm							
5.2	RPM increments	10							
4		Variable acceleration with acceleration and brake ramping. Specify range.							
5.3	RPM accuracy	≤10%							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
5.4	Maximum relative centrifugal force (RCF), g	5000 AT LEAST							
5		Variable Relative Centrifugation Force. Specify range.							
5.5	RCF increments	SPECIFY							
6		User selection between RCF and RPM							
5.6	Acceleration curves	5 OR MORE							
5.7	Deceleration curves	15 OR LESS							
6	**ROTORS**								
6.1	Horizontal (swinging bucket)	YES							
6.2	Fixed angle	YES							
6.3	Removable	Required							
6.4	Adapters available	YES							
6.5	Construction	Metal OR Aluminum							
7	**ROTOR IDENTIFICATION**	Required							
8	**CAPACITY**								
8.1	Maximum number of blood bags	4 AT LEAST							
8.2	Blood bag volume, mL	450 ml AT LEAST							
9	**TIMER**								
7		Variable timer up to 60 min or better as well as continuous operation							
8		Acceleration/deceleration specifications should be provided.							
9.1	Range, min	0 to ≥60							
9.2	Increments	1 sec, 1 min steps							
9.3	Accuracy	1 sec							
10	**TEMPERATURE**								
9		Variable temperature from -10 °C to 30 °C in 1°C increment.							
10		State accuracy							
11		Hermetically sealed, vibration-free compressor							
12		CFC free							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10.1	Accuracy, °C	SPECIFY							
10.2	Range, °C	From -20 to +40 °C							
11	**BRAKING, type**	Electric							
11.1	Brake time, sec	≥110							
11.2	Settings	SPECIFY							
13		Swing out rotor with four buckets, including the necessary adaptors suitable for 1000 ml blood bags shall be included, with sealing lid for each bucket. Overall capacity ≥ 4 x 1000 ml triple-chamber blood bags							
14		The unit shall possess advanced features and characteristics, especially those relating to sample and user safety. These features shall include but not be limited to:							
15		Brushless induction drive							
12	**BRUSH/BRUSHLESS**	Brushless							
13	**SAFETY FEATURES**								
13.1	Centrifuge lid interlock	Required							
13.2	Rotor lid lock	Required							
16		SS bowl and lid interior							
17		Easily removable rotor for cleaning the bowl							
18		Internal safety chamber (steel or similar) between the bowl and outer case							
14	**BIOHAZARD CONTAINMENT**	Required							
15	**ALERT INDICATORS**								
24		Audiovisual alarm with identification of problem or error code for easy troubleshooting. List all alarms.							
26		Each of the following additional features will preferred. State availability as well as characteristics where applicable:							
27		Pulse button							
15.1	Centrifuge lid open	Visual and audible required							
22		Lid opening prevention mechanism when the rotor is turning							
15.2	Imbalance	Visual and audible required							
29		Rotor imbalance detection system							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15.3	End of run	Visual required							
23		Emergency stop capability							
15.4	Overspeed	Visual required							
30		Over speed detection system							
21		Rubber positioning feet to prevent the unit from slipping							
16	**DISPLAY, type**	Touchscreen preferred							
16.1	Parameters displayed	acceleration/deceleration curve.program, temperature,RPM, RCF, run time.							
16.2	Lock icon	Required							
25		Electromagnetic lid locking system with power fail manual override							
17	**PROGRAMMABLE**	Required							
17.1	Rotational speed, RPM/RCF	YES							
17.2	Time	Required							
17.3	Temperature	Required							
17.4	Braking	YES							
17.5	Alerts	Required							
18	**SELF-DIAGNOSTICS**	Required							
28		Automatic rotor identification and verification with auto program							
19	**CALIBRATION FREQUENCY**	SPECIFY							
20	**Recommended cleaners/disinfectants**	Required							
21	**PHOTOTACH ACCESS**	YES							
22	**NOISE LEVEL, dB**	≤70							
19		Insulated interior for noiseless and vibration-free operation. Specify noise level.							
20		Smooth, low noise motor (state motor suspension method)							
23	**Backup**	UPS							
24	**Certification from the manufacturer:**								
31		Compliance with standards & legislation:							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
32		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
33		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
34		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
35		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
36		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
24.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
24.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
24.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
24.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
24.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
24.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
24.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
24.9		Technical support from the manufacturer incase the agent or distributor doesn’t response when needed.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
25	**Maintenance:**								
25.1		preferred less maintenance needed. 2 years free maintenace or more							
25.2		Service manual operation manual {Hardcopy & Softcopy}							
25.3		application software and interface connection Included.							
25.4		spare parts list with code NO							
26	**Power Requirements**	220/230V AC, 50Hz							
27	**Other specification**	Please specify other specification							
مواصفات جهاز (ثلاجة) بنك الدم					0				
NO	**Blood Bank Refrigerator**				0				
	Standard	**Requirements**							
		REFRIGERATOR BLOOD BANK 360 BAGS							
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**								
3.1	FDA Approval	Required							
3.2	CE marking	Required							
1	APPLICATION	**Blood Bank Refrigerator Single Door**							
2	Type	**Non-Flammable, Non-Corrosive**							
		Adjustable Shelves: 4 stainless steel slide out trays with a capacity of 15-18 nos of 450 ml blood bags per tray							
		Should have basket type sliding stainless steel tray which allows bags to be placed upright							
		Should have a lamp for uniform lighting and better visibility of samples inside the cabinet							
		Should include caster wheels as a standard feature							
		Should have refrigeration system “On” indicator provided as a standard feature.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
3	**TEMPERATURE**								
4	Temperature Control	**Programmable Microprocessor**							
5	Temperature Range	**2 ºC to 6 ºC**							
		Chamber temperature range : 2°C to 4°C							
6	Factory Preset	**4 ºC**							
7	Accuracy	**± 1 ºC**							
		Temp. Accuracy: 0.1°C							
		Control System: built in microcontroller based temperature recorder and controller unit (TRCU) positioned at eye level for better visibility and monitoring.							
8	Average Temperature Stability	**± 2 ºC**							
9	Temperature Adjustable	**Yes**							
10	Hi-Tech Integrated Sensor	**Yes**							
		Defrost: Auto defrost							
11	Automatic Defrost	**Yes**							
		Refrigeration Type: Forced air refrigeration system							
12	Cooling & Air Circulation Method	**Forced Cooling**							
13	**TECHNICAL SPECIFICATION**								
14	Capacity	**15 Cu.Ft. Approx**							
		Storage volume :120- 160L							
15	Blood Bag Capacity	**Approx. 300 Bags (350 mL - 450 mL)**							
		Total storage capacity: 60-75 nos of 450 ml blood bags							
16	Exterior MaterialType	**Electrostatic Powder Coated Stainless Steel**							
17	Interior Materical Type	**Stainless Steel**							
		Door: Double layer transparent glass door with lock, Heating film preventing frosting, Sealing joint strip with magnetic force.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Should have an internal evaporator fan for uniform temperature maintenance inside the chamber. It should switch off automatically whenever the door is opened							
18	Door Type	**Heated Glass Door, Lockable**							
19	Safety Lock to Prevent Unauthorised Access	**Yes**							
20	Gasket	**Magnetic**							
21	Number of Drawers & Type	**5-Shelf Epoxy Coated St. Steel / Roll Out**							
		Display: LED display with 0.5°C display resolution							
22	Interior Lights	**LED**							
23	Sensor Type	**Stainless Steel Shielded RTD**							
24	**INTEGRATED WIRELESS MODULE**								
25	Integrated Wireless Data Logging System					Yes			
26	Digital Display	**7" TFT Display**							
27	USB Dowload Data	**Records Temperature, Humidity, Alarm & Door Ajar Information**							
28	Front Ports	**Two USB / Ethernet**							
29	Integrate with the Current & Future KFMC HIS System					Yes			
30	**ALARM**								
		Alarm: Audio and visual for high and low temperature alarms ,Sensor & system failure; Power failure,							
		Should have an alarm silence button							
		Should have internal stabilizer which ensures steady supply voltage for the whole blood storage cabinet and prevents voltage fluctuations							
		Should be work on AC/DC power source							
31	Automatic Alarm (Selectable, Adjustable, Resetable)	**Includes Hi/Lo Temperature, Power Failure, Door Ajar & Condensor**							
32	Remote Alarm Connected to Central Alarm System					Yes			
33	Microprocessor with Backup Battery	**Yes, (Approx. 72 Hrs Power Fail Alarm)**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
34	Visual / Audio Alarms	**Yes, Flash & Buzzer**							
35	Key-Operated Alarm & Setpoint Security	**Lock in Temperature & Setpoint Security**							
36	OTHER SPECIFICATION								
37	High Density CFC-Free Polyurethane Foam Insulation					Yes			
38	Medical Grade Hermetically Sealed Compressors					Yes			
39	Upgradeble Memory	**Yes**				Yes			
40	Digital Calibration	**Yes**							
41	Noise Level	**< 60 db**							
42	**ACCESSORIES INCLUDED**								
		Supplied with complete Accessories :							
43	Casters	**4-Casters, All Direction with Brake.**							
44	USB	**Yes**							
45	Mounting Kit	**Yes**							
46	Additional Distinguish Features if any	**Specify**							
47	Latest Model To Be Installed As Per The Availiability From The Manufacturer					Yes			
48	PHYSICAL SPECIFICATIONS								
49	Dimensions	**Specify**							
50	Weight	**Specify**							
51	INSTALLATION & PRE	**INSTALLATION & PRE - INSTALLATION IF REQUIRED, SHOULD BE DONE BY THE COMPANY, (Civil, Electrical, Plumbing Works etc….)**				Yes, attach separate scope with details			
52	**LINE POWER**								
		Power Supply: AC220V±10%,50Hz **: 12-24 DC**							
53	AC Voltage / Phase	**220 V / Single Phase**							
54	Current	**13 A for power socket**							
55	Frequency	**60 Hz.**							
56	Plug Type	**3 Pin British**							
57	**UNIT COMPLETE WITH FULL ACCESSORIES**					Yes			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز السيلار					0				
NO	Medical Tube Sealer				0				
	Standard	Requirements							
	B-3	Medical Tube Sealer	1						
		Technical specifications							
		Should be compatible with all ranges of blood bag systems available in the market							
		Should be heavy duty radio frequency sealer							
		Should be for bench-top use							
		The sealing time should not be more than 40 seconds							
		Should not be any risk of contamination.							
		Auto-control function, continuous operation; substitution of manual sealing machine;							
		Microcomputer Temperature controller, accuracy ±1%, working temperature range 60~220ºC;							
		Advanced flat ceramic heating components, high-temperature stability, long life expectancy and high heat efficiency.							
		Should have indication lamps detailing the functional status of sealer.							
		Display: LED or LCD screen							
		Machine shell material: Spray carbon steel or 304 stainless steel							
		Power Supply: 220V±10%, 50Hz							
		Supplied with complete accessories							
مواصفات جهاز تصفية البلازما					0				
NO	Plasma extractor				0				
	Standard	Requirements							
	B-4	Plasma extractor	1						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Technical specifications							
		Plasma Extractor is designed to extract blood component from centrifuged bags. It is widely used in hospital, blood station, etc. After the plasma layering, different components of blood can be extruded from top to bottom by the pressure of plasma-separating clip.							
		Applicable Blood Bag							
		Manual system.							
		Easy to observe the separation of the plasma and red blood cells.							
		Material: Stainless Steel							
		Supplied with complete accessories							
مواصفات جهاز مراقبة جمع الدم					0				
NO	**Blood Collection Monitor**				0				
	Standard	**Requirements**							
	B-5	**Blood Collection Monitor**	**1**						
		Technical specifications							
		Micro-controller based program.							
		Must have a weighing range of 1-600 ml.							
		Measuring Accuracy 2%							
		Must have a automatic tare to zero for the bag weight							
		Should have adjustable low and high flow alarms							
		The default volume must be adjustable							
		Volume can be set in 1 ml. increments.							
		Programmed volume during pause							
		Swing Frequency: 30~32 r/min							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Swing Angle: 13±2°							
		Display of weight and volume							
		Motor activated clamping at the end of the collection							
		Auto Calibration							
		Audio and visual alarm with interrupter							
		Automatic alarm when reaching the preset value.							
		RED Bright LED Display							
		Power Supply: AC 220V±10%, 50Hz							
		Supplied with complete accessories							
مواصفات كراسي سحب الدم					0				
NO	**Blood donor chairs**				0				
	Standard	**Requirements**							
	B-6	**Blood donor chairs**	**1**						
		Technical specifications							
		Steel Hospital blood donor chair bed, adjustable transfusion Chair							
		Manual type							
		Material: Power coated steel							
		Size: 625*880*910mm							
		Function: headrest & footrest							
		With solid wood covered armrest							
		Accessories: one I.V. pole, one baskest							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		chair lab	**1**						
1		The stool shall provide unlimited (all direction) mobility							
2		Chrome legs on wide castor base to provide sturdy and stable support							
3		Must have adequate back support							
4		Ring type footrest							
5		Thick cushioned sitting platform covered with durable washable vinyl cover (specify all available colors)							
6		Sitting platform 360° rotation capability in both directions							
7		Lever controlled (under seat) pneumatic column elevation							
8		Adjustable height from ~ 50 to 65 cm from floor level							

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اجهزة قسم الميكربولوجي

Microbiology Labortories Department

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم بالمختبر							
		Labortories Department							
		مواصفات جهاز			0				
NO		INCUBATOR AEROBIC			0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard	FDA approval or CE marking							
	Design	Compact , heavy duty and high quality							
1		A tabletop type incubator with volume of approximately 100 liters							
2		A microprocessor controlled temperature and rated temperature of +70°C							
3		Digital alphanumeric display of temperature as well as other relevant information (error messages, alarming conditions, etc.)							
4		Specify type and dimension of display							
5		Provide a list of displayed information							
6		Temperature spatial deviation at 37°C of +/- 0.5°C							
7		Minimum heating-up time and no temperature fluctuation							
8		Adjustable over-temperature limit controller with independent sensor for unattended operation							
9		User adjustable temperature audiovisual alarms as well as built in functional alarms							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
10		Adjustable value for controlling exhaust air to prevent contamination due to condensation build-up							
11		The incubator shall have a 24 hour timer							
12		The work chamber shall be made of corrosion-resistant stainless steel, with double door design.							
13		Chamber shall possess contamination control features such as easy accessibility and shelf removal for cleaning; rounded corners, etc.							
14		The exterior housing shall be made of galvanized pre-coated steel							
15		Low noise operation. Specify noise level							
16		Thermal distribution method (air chamber, convection, fan, etc.) shall be specified							
17		Offer shall include at least four SS shelves and one humidity tray							
18		The offered equipment shall have an approved international certificate (CE, FDA, TUV, etc.)							
19		Shall list all the necessary accessories for proper installation and functioning							
20		Shall list all the safety precaution and features							
21		Compliance with standards & legislation:							
22		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
23		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
24		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
25		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
26		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
مواصفات جهاز					0				
NO	BURNER MICROBIOLOGY ELECTRIC				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard	FDA approval or CE marking							
	Design	Compact , heavy duty and high quality							
1		**Electrothermal Electric Bunsen Burner, with Controller for microbiology laboratory use**							
2		**Should have Top cowl deflects heat away from hands**							
3		**Hand-held for direct heating**							
4		**Power: ≤ 400W Specify.**							
5		**Stainless steel.**							
6		**Dimensions aprox. : 120 x 175 mm**							
7		**Weight:≤ 0.5 kg**							
8		**The offered equipment shall have an approved international certificate(CE,FDA,TUV, etc..)**							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز					0				
NO	COUNTER COLONY BACTERIA SEMI AUTOMATED				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard	FDA approval or CE marking							
	Design	Compact , heavy duty and high quality							
1		**Compact and durable design for use with all commonly available Petri dishes ranging in diameter from 55 mm to 100 mm**							
2		**To incorporate a steady, non-blinking and glare free LED illuminator**							
3		**With a magnifying glass at least 4x magnification**							
4		**Height adjustable retractable arm**							
5		**To include two background plates; one light (transparent) and one dark**							
6		**User adjustable sensitivity (pressure) level for use with all types of marker pens**							
7		**Audible signal with each count**							
8		**Digital display of accumulated count up to 999 with reset button**							
9		**The offered equipment shall have an approved international certificate (CE, FDA, TUV, etc.)**							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز					0				
NO	ANALYZER AUTOMATED ANTIBIOTIC IDENTIFICATION & SUSCEPTIBILITY				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard	FDA approval or CE marking							
	Design	Compact , heavy duty and high quality							
1		Automated microbiological system for identification of microorganisms in body fluids and stool samples and for testing of susceptibility / Minimum Inhibitory Concentration (MIC) of microorganisms to anti-microbial agents							
2		System shall be equipped with advanced technological features providing highest levels of accuracy, linearity and repeatability. Data shall be provided with the offer							
3		Specify start up time from equipment off to ready for sample taking							
4		Reading methods shall be stated (fluorescence, turbidimetry, colorimetry, etc.)							
5		Automatic calibration							
6		Automatic system QC processing							
7		Built-in QC program for statistical purposes							
8		Sample throughput ≥ 50 / hour							
9		Full automation of all processing steps shall be employed including:							
10		Test setup and verification (following manual preparation of organism suspension)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11		**Antimicrobic susceptibility testing (AST) inoculation dilution**							
12		Test inoculation							
13		Card sealing							
14		Incubator loading							
15		Optical reading							
16		Data transmission							
17		Card disposal							
18		**All system components shall be linked or interfaced to provide positive test tracking and reduce operator related errors. In this regard, the system shall possess the following features:**							
19		Barcode sample identification							
20		Barcode / test card auto information and data linking							
21		ID and AST cards shall be allowed to intermix in a single cassette depending on laboratory work load							
22		**System shall possess identification capabilities for the following microorganisms:**							
23		**Enterobacteriaceae**							
24		**Non-fermenters**							
25		**Gram positives**							
26		**Yeast**							
27		**Specify detection time for:**							
28		Identification (as low as two hours)							
29		Susceptibility (as low as four hours)							
30		MIC (as low as four hours)							
31		Turbidimeter for isolate suspension verification shall be either incorporated or included as a separate item.							
32		ISBT 128 barcode recognition							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
33		Data storage for at least 5,000 patient reports							
34		High resolution 15” LCD color screen (or better) for data entry, result viewing and all types of user interfacing							
35		Internal troubleshooting software capability.Specify details.							
36		**Compliance with standards & legislation:**							
37		The system must comply with the Electrical safety standards for electrical safety IEC-60601							
38		Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.							
39		All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.							
40		Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions							
41		All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.							
42		**Special Site Preparation Requirements:**							
43		Bidders shall coordinate with the civil and electromechanical contractors to provide complete site preparation requirements.							
44		Bidders shall provide complete IT Connectivity Requirements with hospital information system, wherever applicable.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز التعقيم على الطاولة					0				
NO	sterilizing unit steam table top				0				
	Standard	**Requirements**							
LAB-6	**sterilizing unit steam table top**								
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard	FDA approval or CE marking							
	Design	Compact , heavy duty and high quality							
	AIR REMOVAL METHOD	To facility requirements							
	CHAMBER MATERIAL	To facility requirements							
	Volume, m^3 (ft^3)	specify							
	Number of trays	1							
	WATER RESERVOIR CAPACITY, L	please specify							
	PREPROGRAMMED CYCLES, TYPE	Wrapped, unwrapped							
	CYCLE NUMBER, TYPE	To facility requirements							
	MINIMUM CYCLE TIME, min	specify							
	AUTOMATIC CYCLE SHUTOFF	yes							
	TEMPERATURE RANGE, °C (°F)	100-134 (212-273)							
	Overheat shutoff	yes							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	PRESSURE PURGE	Specify							
	CONTROLLER TYPE	please specify							
	Programmable	yes							
	ALARM CONDITIONS								
	Indicator type	Audible, visual							
	Chamber pressure or temperature failure	Audible, visual							
	Component failure	Audible, visual							
	Cycle disruption or failure	Audible, visual							
	DATA MANAGEMENT								
	Recorder	yes							
	Printer	yes							
	POWER SUPPLY, VAC	110-230 50/60 Hz							
	Power supplay	100 to 240 V ~ ±10%, 50/60 Hz Single phase (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
	Consumption, kW	PLEASE SPECIFY							
	Certification from the manufacturer:								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							
		Guaranteeing the availability of all spare parts for the next ten (10) years.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Final operating test by manufacturer							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
	Maintenance:								
		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
		Service manual operation manual {Hardcopy & Softcopy}							
		application software and interface connection Included.							
		spare parts list with code NO							
		Including maintenance and calibration tools.							
	Other specification	Please specify other specification							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز التعقيم					0				
NO	OVEN HEATING DRYING				0				
	Standard	**Requirements**							
	Manufacturer	Please specify manufacturer and country of origin							
	Model Number	Please specify model number of the offered equipment							
	Safety standard	FDA approval or CE marking							
	Design	Compact , heavy duty and high quality							
1		**Microprocessor controlled thermal level regulation**							
2		**Internal capacity ~ 100 liters**							
3		**Variable temperature setting from around 40 °C to 200 °C or better**							
4		**Specify: exact temperature range, accuracy, stability and homogeneity**							
5		**Shall incorporate over-temperature safety device (e.g., backup thermostat).**							
6		**Thermal distribution by forced air method**							
7		**Digital alphanumeric display of temperature and time as well as other relevant information (error messages, alarming conditions, etc.) Specify type and dimension of display**							
8		**SS internal chamber and shelves (4)**							
9		**User adjustable temperature audiovisual alarms as well as built-in functional alarms**							
10		**Shall list all the safety precaution and features**							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11	**Compliance with standards & legislation:**								
12		**The system must comply with the Electrical safety standards for electrical safety IEC-60601**							
13		**Should have a FDA approval and/or CE Mark & SFDA Registration, where applicable. List any other international standards (CE, UL, TUV, CSA), if any.**							
14		**All electrical connections and plugs should be hospital grade and follow international, local and hospital requirements.**							
15		**Provide hard/soft copies of the operation and maintenance manuals as per the tender terms and conditions**							
16		**All other basic accessories deemed necessary that are not mentioned in this specification but are required for full function and highest clinical outcome and output of the equipment must be included.**							
	Certification from the manufacturer:								
		That the bidder has the capability for corrective and preventive maintenance of the unit.							
		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Guaranteeing the availability of all spare parts for the next ten (10) years.							
		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
		Final operating test by manufacturer							
		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
	Maintenance:								
		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
		Service manual operation manual {Hardcopy & Softcopy}							
		application software and interface connection Included.							
		spare parts list with code NO							
		Including maintenance and calibration tools.							
	Power supplay	100 to 240 V ~ ±10%, 50/60 Hz Single phase (power cable Compatible with the Hospital electric outlet plug, 5 mt), Electrical Safety class 1							
	Other specification	Please specify other specification							

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اجهزة قسم النقل الاسعافي

Ambulance & ICU Ambulance Department

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
اجهزة قسم النقل الاسعافي									
	Ambulance Department & Ambulance								
مواصفات سيارة/باص الأسعاف الخاصة بالطؤاري					0				
NO	Ambulance Car/Bus For Emergencies				0				
	Standard	Requirements							
	A-1	Ambulance Bus For Emergencies With Full Accessories	1						
	Specifications:-								
		Each Ambulance Bus incloding the following Specifications :							
	1	Original fabricated ambulance-bus benzene engine, not less than2400 to2700cc, hydraulic power steering manual speed transfer gear (5 for ward + 1 reverse) and should consist of following aditional equipments accessories .	Incl.						
		ABS system Break front +rear (Disc)	Incl.						
	2	Airbags ٢	Incl.						
	3	+ Flashing roof beacon lamp (3 nos air plane type) siren with speakers amplifier (120v) and out side loud speakers for public	Incl.						
	4	Address	Incl.						
	5	Partition between cabinets with sliding window	Incl.						
	6	Floor cover (Anti chemical & static)	Incl.						
	7	Roof fan	Incl.						
	8	Tip-up seat combination,(2-3 pers.) with security belts (in the right side)	Incl.						
	9	indoor D.C. / A.C. power supply sockets(12socket) with security fuses and inverter	2						
	10	Integrated lamps on the ceilig	1						
	11	ceiling mounted drop I.V. holder	1						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	12	Fitted storage cabinet, side board for instruments & ample ltems	1						
	13	fire extinguisher 5 Kg (dry powder)	1						
	14	2013 / 2014 Version model not less than							
	15	Color White							
	16	Warning Triangle							
	17	Air conditioner /Heater							
	18	Fog lamps							
	Patient Compartment								
		Patient Compartment volumetric space shall be sufficient in size to transport occupants and accommodate / store all equipment & fitments specified.							
		The length of the patient compartment measured from partition to the inside edge of the rear loading door at the floor level shall be at least 3100 mm.							
		The length should provide at least 640mm and not more than 760 mm of unobstructed space at the head of the primary patient, when measured from the face of the backrest of the Doctor's/Paramedic's Seat to the forward edge of the stretcher.							
		The minimum width of the compartment when measured at the centre point of the patient compartment shall be not be less than 1500mm and should provide 460 ± 150mm clear aisle walkway between stretcher / cot and the base of squad bench, with the cot located in the street side (non-centred) position.							
		The patient compartment shall provide at least 1520 mm height over the primary patient area, measured from floor to ceiling panels.							
		An access window between Driver's Cabin							
	cabinets & drawers:-								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Adequate provision for storage of medicines/consumables/equipment should be made by providing lockable cabinets & drawers. These should be made from non-wood & non-ferrous fire retardant material (ABS not necessary) in sync with the ambulance's internal look and feel. The drawers should be on guide ways &should be provided with appropriate self-restraining mechanism to arrest the inadvertent opening of the unlocked drawers unless pulled while the vehicle is in motion.							
	Floor	Floor							
		The floor (except the wheel humps) should be flat, anti-static & should be finished with minimum 2mm thick two component PU coating with anti-scratch treatment or 2mm thick Anti-skid PVC vinyl matting or FRP / ABS with Anti-skid coating.							
		should be suitable for easy cleaning, scientific fumigation & treatment with disinfectants. Joints if any should be flushed, seamless, hermetically sealed, waterproof & easy to disinfect. All interior materials shall comply with the fire safety requirements							
	Door:								
		Door: There shall be a 'two leaf' divided rear door or 'flap type' rear door at the rear end of the patient compartment for entry and exit of personnel as well as loading and unloading of the ambulance cot. This door shall not be less than 1170mm in height with minimum width of 1120mm							
		A "Door-Open" warning device shall signal (indicate in the cab) when doors are not closed.							
		The reflectors:- shall be so positioned as to provide maximum visibility							
		A foldable seat:- for the Doctor/Paramedic should be installed facing towards the rear of the patient compartment & it should be near to the primary patient's head for easy accessibility							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Grab Rail made of stainless steel pipe with proper support / fixing, for ease in entering shall be installed in the ceiling. Minimum two IV hooks or holders to be provided at suitable locations to ensure proper patient care.							
	Air-Conditioning								
		The AC unit should be installed at a suitable location in the patient cabin to ensure there is no congestion in the driver/patient cabin.							
	Siren								
		All siren loudspeakers have to be mounted on the front of the vehicle. Hidden installation is allowed. The main sound direction must be in driving direction.							
	Emblems, Marking & Colour Scheme								
		Complete body exterior should be uniform white in colour.							
		Guidelines in regards to Emblems and Markings for Ambulances issued by the Government							
	Lighting and Illumination								
		the ambulance should have the following lighting fitments (12V):							
		• LED based flashing lights with top blue&red lens having minimum four LED flashers visible on both sides of the ambulance (integrated or enclosed in a light bar) mounted on the roof top. The LED flashers should flash cyclically using appropriate flashers.							
		• At least two LED flashers & one spot lamp on both sides of the ambulance as well as two flashers & a rear loading lamp on the rear wall of the ambulance mounted at the highest position feasible. (The rear loading light shall automatically be activated when rear doors are opened.) Interior Patient							
	Electrical System	Electrical System							
		DC to AC inverter 1 kw minimume in suitable palce with this connection							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Adequate number of power receptacles / connections should be provided in the patient compartment to simultaneously power all the equipment's & fitments asked for in this document. The mountings of all electrical outlets shall be sturdy enough to handle wire/plug pressure and vibrations during transit. There should be at least one free automotive grade 12V DC receptacle provided in the patient & driver compartment each at an easily accessible location							
	Oxygen Delivery System								
		should have two oxygen cylinders place with regulators with flowmeter must be fixed							
		Oxegen clinder 3.5 liters with requlator & humidifier	**1**						
		Oxegen clinder 10 liters with requlator & humidifier	**2**						
	On board patient care equipment & supplies (each ambulance should incl. items B-1 to B-8)								
		PATIENT CARRYING DEVICES (ambulance-cot roll in type)							
		Long backboards **Flexible (scoop) stretcher** **portable stretcher**	**1**						
		Flexible (scoop) stretcher	**1**						
		portable stretcher	**1**						
		Extrication collars	**1**						
		short backboard	**1**						
		flexible spinal immobilization device	**1**						
		head immobilization device	**1**						
	stretcher	stretcher							
		(i) Roll-in Self Collapsing Ambulance Cot							
		(iii) The stretcher should be supplied with fixation system.							
		(iv) The stretcher assembly excluding the mattress & other accessories should be less than or equal to 50kg in weight.							
		(v) The stretcher should load seamlessly and no manual intervention vis-a-vis the locking mechanism, wheels, etc should be required after loading in the ambulance to close the rear doors.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		(vi) Should have at least three strap-type restraining devices (chest, hip, and knee) to prevent longitudinal or transverse dislodgment of the patient during transit.							
		(vii) Should be supplied with suitable accessories to fix the supplied portable oxygen cylinder							
		(viii) One number of folding IV Poles should be provided							
		(ix) The stretcher mattress should be water proof and upholstered with fire proof material.							
		(x) The stretcher should be able to be guided in and out of the ambulance without any part of the stretcher (including the legs) striking any part of the ambulance body including the rear footstep.							
	Foldable Carrying Chair (Wheel Chair cum Stair Chair)								
		(i) Net weight : less than 10 Kgs							
		(ii) Pull through, telescoping long handles built in to lift patients & carry them through narrow passages.							
	2	**Action wall-iterior**							
		bag-valve mask with tubing	**3**						
		suction onboard/test at 300 mm Hg	**1**						
		yankauer tip and tuping oxygen regulator -wall	**10**						
		penlight	**2**						
	7	**Emergency case as follwoeing details**							
	First Aid Kit Bag	First Aid Kit Bag							
		(i) Resuscitation & First Aid Kit Bag made of Nylon/tougher material having space for Emergency Airway Management and Resuscitation including essentials drugs, equipment							
		Foot operated suctio pump	**1**						
	Suction Pump (Manual & Handheld)								
		(i) Portable & Lightweight							
		(ii) Vacuum (max): 550mmHg.							
		(iii) Non disposable and autoclavable container of minimum 250 ml connecting jar made out of polycarbonate with overfilling valve.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		(iv) Maximum Weight: <1Kg							
		Laryngoscope intubation set	**1**						
	Self-inflatable Resuscitation Bags								
		(i) Should be made of silicon							
		(ii) Hand operated, self-re-expanding bags (2L, 1L & 500ml sizes) or minimum (1500 ml, 500 ml, 200 ml), with oxygen reservoir/accumulator, clear mask (adult, child, infant and neonate sizes); valve (clear, disposable, operatable in all weather conditions)							
		(iii) To be supplied in proper Carrying case							
		vital signs supplies/wall type anoroid BP							
		Sphygmonanometer rial mounted	**2**						
		sphygmonanometer portable	**2**						
		blood pressure cuff-adult	**1**						
		blood pressure cuff-large adult	**1**						
		blood pressure cuff-pediatric	**1**						
		stethoscope / bell and diaphragm	**2**						
		Stethoscope binaural "Bowles" stainless steel	**2**						
		trauma seissors	**1**						
		Digital thermometer	**2**						
	Thermometer (Digital) – (Qty: Two Nos)								
		(i) Battery operated							
		(ii) with on and off audio alarm							
		(iii) Measurable in Fahrenheit and Centigrade							
		Gulacometer bucket type with test at least 50 test strips	**1**						
	Accessories:	Accessories:							
		Needle and Syringe Destroyer and Sharp container							
		Pneumatic Splints							
		Cervical Collars							
		Artery Forceps 6”							
		Toothed Forceps 6”							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Magill's forceps							
		Kidney Tray							
	4	**Fracture management**							
		trauma scissors	**1**						
		tape 1-inch	**2**						
		tape 2-inch	**2**						
		tape 3-inch	**2**						
	5	**Splints**							
		P+B36 arm short splint	**2**						
		perfabricated leg short splint	**2**						
		perfabricated leg long splint	**2**						
		ladder splint	**2**						
		padded board splint-short	**2**						
		padded board splint-medium	**2**						
		padded board splint-log	**2**						
		pediaric traction splint	**2**						
	6	**Side comartment -back**							
		stiff cervical collar - no neek/xs	**2**						
		stiff cervical collar - short	**2**						
		stiff cervical collar - regular	**2**						
		stiff cervical collar - tall	**2**						
		stiff cervical collar - pediatric	**2**						
		stiff cervical collar - universal	**2**						

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات سيارة/باص الأسعاف الخاصة بالعناية					0				
NO	Ambulance Car/Bus For ICU				0				
	Standard	Requirements							
	Amb-1	Ambulance Car/Bus For ICU	40						
		Each Ambulance incloding the following Specifications :							
	1	Original fabricated ambulance-bus benzene engine, not less than2400 to2700cc, hydraulic power steering manual speed transfer gear (5 for ward + 1 reverse) and should consist of following aditional equipments accessories .	Incl.						
		ABS system Break front +rear (Disc)،	Incl.						
	2	Airbags ٢	Incl.						
	3	+ Flashing roof beacon lamp (3 nos air plane type) siren with speakers amplifier (120v) and out side loud speakers for public	Incl.						
	4	Address	Incl.						
	5	Partition between cabinets with sliding window	Incl.						
	6	Floor cover (Anti chemical & static)	Incl.						
	7	Roof fan	Incl.						
	8	Tip-up seat combination,(2-3 pers.) with security belts (in the right side)	Incl.						
	9	indoor D.C. / A.C. power supply sockets(12socket) with security fuses and inverter	2						
	10	Integrated lamps on the ceilig	1						
	11	ceiling mounted drop I.V. holder	1						
	12	Fitted storage cabinet, side board for instruments & ample ltems	1						
	13	fire extinguisher 5 Kg (dry powder)	1						
	14	2013 / 2014 Version model not less than							
	15	Color White							
	16	Warning Triangle							
	17	Air conditioner /Heater							
	18	Fog lamps							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Patient Compartment								
		Patient Compartment volumetric space shall be sufficient in size to transport occupants and accommodate / store all equipment & fitments specified.							
		The length of the patient compartment measured from partition to the inside edge of the rear loading door at the floor level shall be at least 3100 mm.							
		The length should provide at least 640mm and not more than 760 mm of unobstructed space at the head of the primary patient, when measured from the face of the backrest of the Doctor's/Paramedic's Seat to the forward edge of the stretcher.							
		The minimum width of the compartment when measured at the centre point of the patient compartment shall be not be less than 1500mm and should provide 460 ± 150mm clear aisle walkway between stretcher / cot and the base of squad bench, with the cot located in the street side (non-centred) position.							
		The patient compartment shall provide at least 1520 mm height over the primary patient area, measured from floor to ceiling panels.							
		An access window between Driver's Cabin							
	cabinets & drawers:-								
		Adequate provision for storage of medicines/consumables/equipment should be made by providing lockable cabinets & drawers. These should be made from non-wood & non-ferrous fire retardant material (ABS not necessary) in sync with the ambulance's internal look and feel. The drawers should be on guide ways &should be provided with appropriate self-restraining mechanism to arrest the inadvertent opening of the unlocked drawers unless pulled while the vehicle is in motion.							
	Floor	Floor							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		The floor (except the wheel humps) should be flat, anti-static & should be finished with minimum 2mm thick two component PU coating with anti-scratch treatment or 2mm thick Anti-skid PVC vinyl matting or FRP / ABS with Anti-skid coating.							
		should be suitable for easy cleaning, scientific fumigation & treatment with disinfectants. Joints if any should be flushed, seamless, hermetically sealed, waterproof & easy to disinfect. All interior materials shall comply with the fire safety requirements							
	Door:								
		Door: There shall be a 'two leaf' divided rear door or 'flap type' rear door at the rear end of the patient compartment for entry and exit of personnel as well as loading and unloading of the ambulance cot. This door shall not be less than 1170mm in height with minimum width of 1120mm							
		A "Door-Open" warning device shall signal (indicate in the cab) when doors are not closed.							
		The reflectors:- shall be so positioned as to provide maximum visibility							
		A foldable seat:- for the Doctor/Paramedic should be installed facing towards the rear of the patient compartment & it should be near to the primary patient's head for easy accessibility							
		Grab Rail made of stainless steel pipe with proper support / fixing, for ease in entering shall be installed in the ceiling. Minimum two IV hooks or holders to be provided at suitable locations to ensure proper patient care.							
	Air-Conditioning								
		The AC unit should be installed at a suitable location in the patient cabin to ensure there is no congestion in the driver/patient cabin.							
	Siren								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		All siren loudspeakers have to be mounted on the front of the vehicle. Hidden installation is allowed. The main sound direction must be in driving direction.							
	Emblems, Marking & Colour Scheme								
		Complete body exterior should be uniform white in colour.							
		Guidelines in regards to Emblems and Markings for Ambulances issued by the Government							
	Lighting and Illumination								
		the ambulance should have the following lighting fitments (12V):							
		• LED based flashing lights with top blue&red lens having minimum four LED flashers visible on both sides of the ambulance (integrated or enclosed in a light bar) mounted on the roof top. The LED flashers should flash cyclically using appropriate flashers.							
		• At least two LED flashers & one spot lamp on both sides of the ambulance as well as two flashers & a rear loading lamp on the rear wall of the ambulance mounted at the highest position feasible. (The rear loading light shall automatically be activated when rear doors are opened.) Interior Patient							
	Electrical System	Electrical System							
		DC to AC inverter 1 kw minimume in suitable palce with this connection							
		Adequate number of power receptacles / connections should be provided in the patient compartment to simultaneously power all the equipment's & fitments asked for in this document. The mountings of all electrical outlets shall be sturdy enough to handle wire/plug pressure and vibrations during transit. There should be at least one free automotive grade 12V DC receptacle provided in the patient & driver compartment each at an easily accessible location							
	Oxygen Delivery System								
		should have two oxygen cylinders place with regulators with flowmeter must be fixed							
		Oxegen clinder 3.5 liters with requlator & humidifier	**1**						
		Oxegen clinder 10 liters with requlator & humidifier	**2**						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	On board patient care equipment & supplies (each ambulance should incl. items B-1 to B-8)								
		PATIENT CARRYING DEVICES (ambulance-cot roll in type)							
		Long backboards **Flexible (scoop) stretcher** **portable stretcher**	**1**						
		Flexible (scoop) stretcher	**1**						
		portable stretcher	**1**						
		Extrication collars	**1**						
		short backboard	**1**						
		flexible spinal immobilization device	**1**						
		head immobilization device	**1**						
	stretcher	stretcher							
		(i) Roll-in Self Collapsing Ambulance Cot							
		(iii) The stretcher should be supplied with fixation system.							
		(iv) The stretcher assembly excluding the mattress & other accessories should be less than or equal to 50kg in weight.							
		(v) The stretcher should load seamlessly and no manual intervention vis-a-vis the locking mechanism, wheels, etc should be required after loading in the ambulance to close the rear doors.							
		(vi) Should have at least three strap-type restraining devices (chest, hip, and knee) to prevent longitudinal or transverse dislodgment of the patient during transit.							
		(vii) Should be supplied with suitable accessories to fix the supplied portable oxygen cylinder							
		(viii) One number of folding IV Poles should be provided							
		(ix) The stretcher mattress should be water proof and upholstered with fire proof material.							
		(x) The stretcher should be able to be guided in and out of the ambulance without any part of the stretcher (including the legs) striking any part of the ambulance body including the rear footstep.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Foldable Carrying Chair (Wheel Chair cum Stair Chair)								
		(i) Net weight : less than 10 Kgs							
		(ii) Pull through, telescoping long handles built in to lift patients & carry them through narrow passages.							
	2	**Action wall-iterior**							
		bag-valve mask with tubing	**3**						
		suction onboard/test at 300 mm Hg	**1**						
		yankauer tip and tuping oxygen regulator -wall	**10**						
		penlight	**2**						
	7	**Emergency case as follwoeing details**							
	First Aid Kit Bag	First Aid Kit Bag							
		(i) Resuscitation & First Aid Kit Bag made of Nylon/tougher material having space for Emergency Airway Management and Resuscitation including essentials drugs, equipment							
	Suction Pump (Manual & Handheld)								
		Foot operated suctio pump	**1**						
		(i) Portable & Lightweight							
		(ii) Vacuum (max): 550mmHg.							
		(iii) Non disposable and autoclavable container of minimum 250 ml connecting jar made out of polycarbonate with overfilling valve.							
		(iv) Maximum Weight: <1Kg							
		Laryngoscope intubation set	**1**						
	Self-inflatable Resuscitation Bags								
		(i) Should be made of silicon							
		(ii) Hand operated, self-re-expanding bags (2L, 1L & 500ml sizes) or minimum (1500 ml, 500 ml, 200 ml), with oxygen reservoir/accumulator, clear mask (adult, child, infant and neonate sizes); valve (clear, disposable, operatable in all weather conditions)							
		(iii) To be supplied in proper Carrying case							
	3	**vital signs supplies/wall type anoroid BP**							
		Sphygmonanometer rial mounted	**2**						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		sphygmonanometer portable	**2**						
		blood pressure cuff-adult	**1**						
		blood pressure cuff-large adult	**1**						
		blood pressure cuff-pediatric	**1**						
		stethoscope / bell and diaphragm	**2**						
		Stethoscope binaural "Bowles" stainless steel	**2**						
		trauma seissors	**1**						
		Digital thermometer	**2**						
	Thermometer (Digital) – (Qty: Two Nos)								
		(i) Battery operated							
		(ii) with on and off audio alarm							
		(iii) Measurable in Fahrenheit and Centigrade							
		Gulacometer bucket type with test at least 50 test strips	**1**						
	Accessories:	Accessories:							
		Needle and Syringe Destroyer and Sharp container							
		Pneumatic Splints							
		Cervical Collars							
		Artery Forceps 6”							
		Toothed Forceps 6”							
		Magill’s forceps							
		Kidney Tray							
		On board patient care equipment & supplies							
		Lung Ventilator For Adult, Pediatric & Infant							
		Transport Ventilator For Adult, Pediatric & Infant				Required			
		MRI Compatable Transport Ventilator For Adult, Pediatric & Infant				Optional			
		Patients Monitor							
		Transport Monitor For Adult, Pediatric & Infant				Required			
		MRI Compatable Transport Monitor For Adult, Pediatric & Infant				Optional			
		DC Shock Machine							
		Others:							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Syringe & INFUSION PUMP				Required			
		MRI Compatable Syringe & INFUSION PUMP				Optional			
		ECG Recorder ,12 Channel Complete Accessories with Trolley				Required			
		Electric Suction machine (Mobile Suction Unit)				Optional			
		Portable Pulse Oximater				Required			
		Electrical Nebulizer ultrasonic				Required			
		Blood Warmer				Optional			
		On board patient care equipment & supplies:							
		(each ambulance should incl. items 1 to 8)							
	1	**PATIENT CARRYING DEVICES (ambulance-cot roll in type)**							
		Long backboards Flexible (scoop) stretcher portable stretcher	1						
		Flexible (scoop) stretcher	1						
		portable stretcher	1						
		Extrication collars	1						
		short backboard	1						
		flexible spinal immobilization device	1						
		head immobilization device	1						
	2	**Action wall-iterior**							
		bag-valve mask with tubing	3						
		suction onboard/test at 300 mm Hg	1						
		yankauer tip and tuping oxygen regulator -wall	10						
		penlight	2						
	3	**vital signs supplies/wall type anoroid BP**							
		blood pressure cuff-adult	1						
		blood pressure cuff-large adult	1						
		blood pressure cuff-pediatric	1						
		stethoscope / bell and diaphragm	2						
		trauma seissors	1						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	4	**Fracture management**							
		trauma scissors	1						
		tape 1-inch	2						
		tape 2-inch	2						
		tape 3-inch	2						
	5	**Splints**							
		P+B36 arm short splint	2						
		perfabricated leg short splint	2						
		perfabricated leg long splint	2						
		ladder splint	2						
		padded board splint-short	2						
		padded board splint-medium	2						
		padded board splint-log	2						
		pediaric traction splint	2						
	6	**Side comartment -back**							
		stiff cervical collar - no neek/xs	2						
		stiff cervical collar - short	2						
		stiff cervical collar - regular	2						
		stiff cervical collar - tall	2						
		stiff cervical collar - pediatric	2						
		stiff cervical collar - universal	2						
	7	**Emergency case as follwoeing details**							
		Foot operated suctio pump	1						
		Laryngoscope intubation set	1						
		Oxegen clinder 3.5 liters with requlator & humidifier	1						
		Oxegen clinder 10 liters with requlator & humidifier	2						
		Stethoscope binaural "Bowles" stainless steel	2						
		Sphygmonanometer rial mounted	2						
		sphygmonanometer portable	2						
		Digital thermometer	2						
		Gulacometer bucket type with test at least 50 test strips	1						

اجهزة قسم الكهربائي والصيانة

Electrical & Maintenance Department

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم الكهربائي							
		Electrical Department							
		مواصفات جهاز ثلاجة الموتي			0				
NO		A-REFRIGERATOR, MORTUARY, 6 BODY			0				
	Standard	Requirements							
1	GENERAL :								
2	**A-REFRIGERATOR, MORTUARY, 6 BODY**	**Delivery & installation of total of 6 body capacity mortuary Refrigerator.**							
3	1-Number of Unit	1 (3 X 2)							
4	2-Tier Quantity	2							
5	3-Tier Capacity	3							
6	**4-Complete with lucks & keys for each chamber**					Yes			
7	**5-End opening**					Yes			
8	6-Ambient Temp	50º C or above							
9	7-Temprature range	0 to-20 adjustable. LCD display with 0.1 C accuracy							
10	8-Compressor	2 Remote compressor (according to site condition)							
11	9-Compressor's synchronised	Yes "Automatic change over switch" for both compressors							
12	**10-Full height door with inner plastic doors "Gasket"**					Yes			
13	**11-Roller frame assembly**					Yes			
14	**12-Cardholder**					Yes			
15	**13-Frame heating**					Yes			
16	14-Doors	6 single door easy replaceable hollow chamber seals.							
17	15-Door opening angle, degrees	180° and the direction depend on the site condition							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
18	**16-Each unit shall have dual auto switchover system**					Yes			
19	**17-Odor dissolving device mounted inside the unit. Chemical free – ionization principle**					Yes			
20	**18-All surface finishes shall be resistant to abrasive chemical and detergent and corrosion resistant**					Yes			
21	**19-Morgue, lifter and trolleys are compatible with the system**					Yes			
22	**20-Odorless (ventilation Sys.) for mortuary building**					Yes			
23	**21-Interior lighting – splash proof**					Yes			
24	22-Body Tray	6 removable Body Tray's are manufactured from stainless steel sheet with Polished pressed construction seamless shaped with tubular carrying handles with compatible drainage							
25	**23-Anti Ice**					Yes			
26	**24-Refrigerant gas to be CFC free**					Yes			
27	**MORGUE UNITS**								
28	**A-CONSTRUCTION**								
29	**1-Exterior: 20 gauge polished 304 stainless steel**					Yes			
30	**2-Interior: 20 gauge polished 304 stainless steel**					Yes			
31	**3-Door: 20 gauge polished 304 stainless steel**					Yes			
32	**4-Inside Floor: 20 gauge polished 304 stainless steel**					Yes			
33	**5-Insulation: Foamed in place polyurethane insulation. Full 80 mm thick rigid polyurethane CFC free**					Yes			
34	**6-Gasket: Extruded vinyl, welded corners, replaceable**					Yes			
35	**7-Hardware: metal fittings and each door is provided with pull handles with keylock**					Yes			
36	**8-Door heater: Perimeter anti-sweat device, replaceable**					Yes			
37	**9-Frame: Roller frame assembly**					Yes			
38	**10-Removable trays: Construction one piece, welded with tubular hand holds at each end.**					Yes			
39	**11-Interior lighting**					Yes			
40	**12-Inner safety release**					Yes			
41	**13-Body tag holder on front door**					Yes			
42	**14-Easy clean non-corroding surface**					Yes			
43	**B-REFRIGERATION**								

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
44	1-Refrigeration system shall be remote mounted in a mechanical room and shall include auto switchover	Yes, calculations are to be based on 30 meters, and 50C ambient temperature.							
45	**2-The performance shall be at a maximum ambient**					Yes			
46	3-Compressor	2 remote compressors semi-hermetic or hermetic compressors	2 remote compressors semi-hermetic or hermetic compressors						
47	**1-Discharge vibration elemint**					Yes			
48	2-Noisiness	58Db or less							
49	3-Air flow	1200 m3 /h or more							
50	4-Cooling capacity	1.9 kw or more							
51	**4-It must accomplish the function of:**								
52	1-it should provide comple	1-it should provide complete back up protection for the cooling system of the Refrigerator two complete systems with duplicate condensing units and evaporators (fan coil)				Yes			
53	2-Each of these system are	2-Each of these system are enough to cool the cabinet independently. So if one fails for any reason the other takes over automatically to maintain temperature				Yes			
54	**C-TEMPRATURE ALARM SYSTEM**	Complete temprature system which shall provide an audible and visual alarm							
55	**1-Alarm on each body chamber**					Yes			
56	**2-Audio visual alarm for temperature and power failure. Digital display.**					Yes			
57	**3-Audio visual alarm for temperature and power failure.**					Yes			
58	**4-Bright LED digital display with high resolution**					Yes			
59	**5-Remote alarm connection**					Yes			
60	**6-Temperature uniformity for all colding chambers**					Yes			
61	**D-RECORDER ON EACH REFRIGERATOR**								
62	**1-7 day circular recording to meet regulatory standards**					Yes			
63	**2-New 7-inches easy to read charts with temp Hi-Lite recording track area**					Yes			
64	**3-Records temperature in degree Celsius and chart changes**					Yes			
65	**4-EASY TO calibration and chart changes**					Yes			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
66	**POWER SUPPLY**	380Volts – 60 Hz.							
67	OTHER SPECIFICATIONS								
68	A-Technical Documentation	Original sets of manufacturer documentation including operation and service manual in English & Arabic							
69	B-Spare Parts	Availability of spare parts guaranteed for minimum period ten years…							
70	Compressor cover	Yes							
	مواصفات جهاز				0				
NO	**A-REFRIGERATOR, MORTUARY, 9 BODY**				0				
	Standard	**Requirements**							
1	1-GENERAL :								
2	A-REFRIGERATOR, MORTUARY, 9 BODY	Delivery & installation of total of 9 body capacity mortuary Refrigerator.							
3	1-Number of Unit	1 (3 X 3)							
4	2-Tier Quantity	3							
5	3-Tier Capacity	3							
6	4-Complete with lucks & keys for each chamber					Yes			
7	5-End opening					Yes			
8	6-Ambient Temp	50º C or above							
9	7-Temprature range	+5 to-5 adjustable. LED display with 0.1 C accuracy							
10	8-Compressor	2 Remote compressor (according to site condition)							
11	9-Compressor's synchronised	Yes "Automatic change over switch" for both compressors							
12	10-Full height door with inner plastic doors "Gasket"					Yes			
13	11-Roller frame assembly					Yes			
14	12-Cardholder					Yes			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15	13-Frame heating					Yes			
16	14-Doors	9 single door easy replaceable hollow chamber seals.							
17	15-Door opening angle, degrees	180° and the direction depend on the site condition							
18	16-Each unit shall have dual auto switchover system					Yes			
19	17-Odor dissolving device mounted inside the unit. Chemical free – ionization principle					Yes			
20	18-All surface finishes shall be resistant to abrasive chemical and detergent and corrosion resistant					Yes			
21	19-Morgue, lifter and trolleys are compatible with the system					Yes			
22	20-Odorless (ventilation Sys.) for mortuary building					Yes			
23	21-Interior lighting – splash proof					Yes			
24	22-Body Tray	9 removable Body Tray's are manufactured from stainless steel sheet with Polished pressed construction seamless shaped with tubular carrying handles with compatible drainage							
25		23-Anti Ice				Yes			
26		24-Refrigerant gas to be CFC free				Yes			
27		2-MORGUE UNITS							
28	A-CONSTRUCTION	A-CONSTRUCTION							
29		1-Exterior: 20 gauge polished 304 stainless steel				Yes			
30		2-Interior: 20 gauge polished 304 stainless steel				Yes			
31		3-Door: 20 gauge polished stainless steel				Yes			
32		4-Inside Floor: 20 gauge polished 304 stainless steel				Yes			
33		5-Insulation: Foamed in place polyurethane insulation. Full 80 mm thick rigid polyurethane CFC free				Yes			
34		6-Gasket: Extruded vinyl, welded corners, replaceable				Yes			
35		7-Hardware: metal fittings and each door is provided with handles with keylock				Yes			
36		8-Door heater: Perimeter anti-sweat device, replaceable				Yes			
37		9-Frame: Roller frame assembly				Yes			
38		10-Removable trays: Construction one piece, welded with tubular hand holds at each end.				Yes			
39		11-Interior lighting				Yes			
40		12-Inner safety release				Yes			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
41		13-Body tag holder on front door				Yes			
42		14-Easy clean non-corroding surface				Yes			
43	B-REFRIGERATION	B-REFRIGERATION							
44	1-Refrigeration system shall be remote mounted in a mechanical room and shall include auto switchover	Yes, calculations are to be based on 30 meters or more (according to the mechanical room location) , and 50C ambient temperature.	n 30 meters or more (according to the mechanical room location) , and 50						
45	2-The performance shall be at a maximum ambient					Yes			
46	3-Compressor	2 remote compressors semi-hermetic or hermetic compressors							
47	1-Discharge vibration elemint					yes			
48	2-Noisiness	58Db or less							
49	3-Air flow	2400 m3 /h or more							
50	4-Cooling capacity	2.5 kw or more							
51	4-It must accomplish the function of:								
52		1-it should provide complete back up protection for the cooling system of the Refrigerator two complete systems with duplicate condensing units and evaporators (fan coil)				Yes			
53		2-Each of these system are enough to cool the cabinet independently. So if one fails for any reason the other takes over automatically to maintain temperature				Yes			
54	C-TEMPRATURE ALARM SYSTEM	Complete temprature system which shall provide an audible and visual alarm							
55		1-Alarm on each body chamber				Yes			
56		2-Audio visual alarm for temperature and power failure. Digital display.				Yes			
57		3-Bright LED digital display with high resolution				Yes			
58		4-Remote alarm connection				Yes			
59		5-Temperature uniformity for all colding chambers				Yes			
60	D-RECORDER ON EACH REFRIGERATOR								
61		1-7 day circular recording to meet regulatory standards				Yes			

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
62		2-New 7-inches easy to read charts with temp Hi-Lite recording track area				Yes			
63		3-Records temperature in degree Celsius and chart changes				Yes			
64		4-EASY TO calibration and chart changes				Yes			
65	3-POWER SUPPLY	380Volts – 60 Hz.							
66	4-OTHER SPECIFICATIONS								
67	A-Technical Documentation	Original sets of manufacturer documentation including operation and service manual in English & Arabic							
68	B-Spare Parts	Availability of spare parts guaranteed for minimum period ten years…							
69	Compressor cover	Yes							
مواصفات جهاز المولد الكهربائي					0				
NO	Electrical Generator				0				
	Standard	Requirements							
		A- 100 KVA at altitude 1500 mt from sea level	**1**						
		Original brochures and technical data sheets must accompany the offers, non-compliance will be disqualified							
		Local engineer(s) certificates (training) who will be responsible for the support of the unit must be submitted whenever requested, and service call response during warranty must be within 24 hours. Equipment repaired within 72 hours, failing which warra							
		Installation & Commissioning must be done by manufacturer engineer							
		User training, satisfactory demonstration, .							
		Special feature of the product (other than mentioned on list)							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Extra Special feature or option of the product not include in our Specification. (Put on separate price on list)							
		2 Years comprehensive warranty (labour, parts, PPM's, emergency breakdowns, SW/ HW upgrades must be included with no additional charges, from the date of installation and commissioning **(MANDATORY)**							
		The options will be taken dependent on budget enough							
		EMERGENCY DIESEL GENERATING SET:							
		General Specification							
		Diesel Engine:							
		* Cooling type : Water cooled							
		* Cycle : Four stroke							
		* Fuel injection : Direct fuel injection							
		* Cylinder arrangement: In line							
		* Aspiration : Turbocharger for intake air							
		Fuel system							
		- Inline injection pump							
		- Fuel feed pump							
		- Fuel filter							
		- Daily fuel tank capacity sufficient for 10 hrs running							
		Exhaust system							
		- Dry exhaust manifold							
		-Flixible expansion							
		- Exhaust elbows							
		- Silencer							
		Lubrication system							
		- Gear oil pump for lube feeding							
		- Oil heat exchanger							
		- Oil multistage flter							
		- Sump oil drain pump fitted							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Cooling system							
		- Radiator cooling unit mounted on base frame							
		- Cooling water circulating pump							
		- Fan driven by engine							
		Start/Stop system							
		- Starter motor 24 volts DC							
		- Charging alternator with regulator							
		- Starting battery lead acid type							
		- Extra battery charger with regulator from mains source							
		- Full speed within 15 sec.							
		-Cool down period from 2 to 15 minutes.							
		- Two further starting attempts with alarm signal when engine fails to start							
		Engine Safety							
		- Low oil pressure shut-down							
		- High coolant temp. shut-down							
		- Low coolant water level shut-down							
		- Over speed protection							
		- Over cranking							
		Governer							
		Electronic speed governer designed for paralling and load sharing and over speed trip							
		Instumentation							
		Water temp.,lube temp. and pressure,tachometer, hour-meter							
		Alternator							
		Type : Brushless, synchronous,self exiting, self regulating,single bearing							
		Power factor : 0.8							
		Terminal Voltage : 3 ph 380/220 v+/- 1.5%, 50 Hz							
		Connection Terminals : Star 4 wires							
		Protection : IP 31 Drip Proof							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Insulation Class : H Tropicalized							
		Gen set mounted circuit breaker							
		Cooling : Built-in cntrifugeal fan							
		Switch Positions : Manual - Off - Automatic							
		Meters :Real power KW, power factor, voltmeters, ammeters,frequency							
		Fuel Storage & Fuel Transfer							
		Vertical type of 6 mm thick black steel , hydraustatically tested, manhole 500 mm diam.							
		The capacity chould be sufficient for full load operation for 7 days. The tank should be painted							
		outside with two coats zinc chromate primer and two coats acid and alkali resistant coating.							
		Tank should have horizontal swing check valve,level gauge and low level alarm contacts.							
		One manual and one elctrical fuel feed pump to be provided.							
		Derating							
		Derating charts shoul be submitted from the manufaturer, taking into concederations the							
		altitude of the location.							
		Automatic Transfer Switch							
		Each individual gen set should be supplied with the suitable **ATS** complete with all realays,							
		timers, circuit breakers , electrical and mechanical interlocking according to the international							
		regulations for ratings and safety							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		The type of the **ATS** may be either wall mount or free standing according to the location							
		Prime Power Generators Ratings:							
		A- 100 KVA at altitude 1500 mt from sea level							
		Necessary Requirements:							
		* All electrical, mechanical, plumbing, civil and installation works, including materials should be done by the supplier.							
		* Suplly with Full deisel tank.							
		* Material should be done by supplier.							
		* Use single core cable from generator to control panel.							
		* Supply complete mechanical tools, special tools tester, electrical tools							
		* Supply with ON/OFF knief switch							
		* 2 years service guarantee.							
		Accessories:							
		2 set of disel filter							
		2 set of air filter							
		2 set of oil							
		200 liter of disel							
		set of secrew drivr , wrench and filter key							

الجمهورية اليمنية

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
مواصفات جهاز محرقة النفايات الطبية					0				
NO	Medical incinerator				0				
	Standard	Requirements							
ICU-11									
1	**Manufacturer**	Please specify manufacturer and country of origin							
2	**Model Number**	Please specify model number of the offered equipment							
3	**Safety standard**	FDA Approval or CE Marking							
#		Description							
1		Medical incinerator							
	Application	Application							
		Hospital medical waste: Gasified incineration is used for burning syringe, paper waste, bandage, absorbent cotton, expired drugs, infectious viscera and other medical wastes.							
		Disposable plastic waste.							
	Specification	Specification							
	Burning capacity:	Burning capacity: 1000 Kg/times Biomedical Waste incinerator							
	Combustion efficiency:	Combustion efficiency:Not less 95%.							
	Combustion Chamber:	Combustion Chamber: Dual Chamber							
	Burning Temperature:	Burning Temperature: 800-1200°C ± 50 °C							
		Smokeless and no harmful to environment							
	Ash residue	Ash residue ＜5% of total capacity.							
	Chamber Material:	Chamber Material: mild steal, painted with heating resistance aluminum paint.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
	Furnace Material:	Furnace Material: High temperature brick furnace.							
	Chimney length:	Chimney length: 6 meter or more with rain-proof cap							
	Chimney Material:	Chimney Material: Corrosion and high temperature resistant aluminum paint.							
	Automatic ignition type.	Automatic ignition type.							
	Power Requirement: Diesel, Electrical.	Power Requirement: Diesel, Electrical.							
	Power supply	Power supply : single phase,220v-240 / 50Hz.							
		Should be have quality Certificate (CE, FDA or Equivalent).							
		Should be equipped with electric control and all necessary requirements (air pipelines and oil pipelines, thermocouples, Cables, etc.) and related accessories.							
	The incinerator system should have consist of the following :								
		1- Combustion chamber (primary)							
		2- Combustion chamber (secondary)							
		3- Combustion burners for primary & secondary chambers.							
		4- Ash Chamber							
		5- Air Blower							
		6- Mix burning chamber							
		7- Absorption chamber							
		8- Chimney length: 6 meter or more with rain-proof cap							
		9- Fuel tank							
		Should be equipped with electric control and all necessary requirements (air pipelines and oil pipelines, thermocouples, Cables, etc.) and related accessories.							
	DOCUMENTATION								
		a. Operating or User manual							
		b. Maintenance or Service manuals							
2		Building the Medical incinerator room and landfill							

الجمهورية اليمنية

اجهزة قسم الحضانة

NURSERY Department

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		اجهزة قسم الحضانة							
		NURSERY Department							
		مواصفات اجهزة حاضنات المواليد			0				
NO		Infant Warmer			0				
	Standard	Requirements							
	IN-2	Infant Warmer	2						
		Technical specifications							
		should have facility to display both skin and air (ambient) temperature separately.							
		Microprocessor based servo controlled temperature system.							
		Temperature display by LED.							
		Ceramic infra Red heater.							
		should have audiovisual alarm for overheating beyond set temperature range.							
		Alarm Functions:Power failure, Temperature deviation, Temperature sensor failure, over temperature ,Skin temperature sensor failure and time out alarm							
		Display temperature range from 25 to 40 degree C.							
		Skin Temp. control range 32 C -38 C							
		Skin Temp. controlr accuracy 0.5 C							
		Air Temp. sensor accuracy < 2 C							
		Skin Temp.sensor accuracy ±0.3 C							
		Warm-up time not more than 25 Min							
		Heater Output Display Indication.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		should rotate and swivel in different direction, so as to allow taking X-ray.							
		Vertical Height Adjustment							
		Heater head rotation: 90° left or right							
		Should have IV stand and observation lamp.							
		Power input to be 220-240VAC, 50Hz							
		Manuals: One set of operator & service manuals							
		Should be FDA or CE approved and certified.							
		Supplied With Complete Standard Accessories.							
مواصفات جهاز علاج المواليد بالاضاءة					0				
NO	**Phototherapy Unit**				0				
	Standard	**Requirements**							
	IN-5	**Phototherapy Unit**	**2**						
		Microprocessor base, digital programming, adjustable height.							
		Two mode of operation “continuous mode and timed mode”.							
		4 Treatment lamps or more.							
		should be in the range of 420 – 470 nm and irradiance level should be higher than normal blue tube lights							
		The unit should provide a minimum of irradiance 10Watts/m2.							
		Timer for exposure programming between 0-30 hrs							
		Time Counter And Irradiation Timer							
		Memory protection and easy programming							
		Total working hours should be displayed on every power on or by pressing rest button							
		Adjustable height							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Lamp source should be continuous tiltable to ±90 degree angle to cover the entire treatment area.							
		The product offered should be USFDA/European CE approved with certificate to be submitted.							
		Mains power 220- 240V ±6% , 50 Hz British Standard 3 Pin Power Plug / Cable							
		Supplied with complete Accessories :							
		4 Treatment lamps.							
	IN-6	**patients Monitor**	**2**						
		Monitor for continuous monitoring of critical patients during transport between various units.							
		Battery-cum-mains operated							
		Battery type & run time should be specified and backup should be at least 3-4 hours							
		Large high resolution LCD color display 12 "							
		Min 6 channels, display of monitored waveforms & parameters							
		Parameter modules:							
		ECG/ Resp (adult\infant)							
		acuracy : ±1% or 1pbm							
		NIBP (adult\infant)							
		acuracy : ±5% mmhg							
		SpO2 (adult\infant)							
		acuracy : ±3% or 3pbm							
		Temp (rectal/ skin) (adult\infant)							
		acuracy : ±1% or 1pbm							
		Invasive Pressure (adult\infant)							
		acuracy : ±1% or 1pbm							
		co2 module							
		Vital signs alarm limits & audible alerts for all monitored parameters							
		Trend analysis, tabular & graphic display / recording for at least 24 hrs or more							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Built-in multi channel recording facility of real time and delayed waveforms, vital signs and arrhythmia's							
		Bed-mount bracket/ attachment							
		Future upgradeable / expandable							
		Bilud in thermal printer							
		Standard:							
		Mains power 220- 240V ±6% , 50 Hz British Standard 3 Pin Power Plug / Cable							
		ACCESSORIES							
		ECG Module (10 lead ECG cable)							
		2 NIBP Cuff (adult/infant)							
		2 IBP Reusable Interface Cable							
		2 SpO2 probes (adult/infant)							
		2 Temp sensors (rectal/ skin) (adult/infant)							
		End tidal CO2 (Adult & Ped. Kit)							
		Recorder paper rolls (10 per module)							
		Spare battery							
		Operation manual							
		Service manual							
		3 Fuse							
		NOTE							
		All equipment needing consumables must allow the possibility to use **generic and/or locally made consumables and/or disposables**. Compliance to this condition must be declared here by the bidders.							
	IN-7	**Electric Suction machine (Mobile Surgical Suction Unit)**	**2**						
		Evacuate fluid, tissue, gas, or other foreign materials from a body cavity or lumen by means of suction							
		Specification							
		Electric powered suction machine: Constructed from heavy duty design consisting of metal base plate.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		Stainless Steel Top Tray.							
		Bottle capacity 2-2.5 litres							
		stopper of the bottle fitted with 2 valves							
		suction inlet connected to the catheter holder by neoprene tube.							
		The bottles should be fitted with rubber lids.							
		Oil-free pump							
		The bottle should be made of transparent autoclavable, and be fitted with float valve system, providing automatic shut-off to avoid overflow, and a bacterial filter.							
		The machine should be fitted with a controllable vacuum knob and a gauge (range 0-760mmHg).							
		Hose : 3 mt silicon rubber							
		Flow rates – open flow 20 litres/ minute or more							
		Mounted on a stable, portable stand with castors/wheels and handle (on trolley)							
		Noise level less than 60db.							
		Operation power should be AC 220-240V 50 Hz.							
		Complete with All accessories:							
		2x autoclavable bottle of 2-2.5L							
		3 meter of autoclavable tubing							
		3x spare filters.							
		3 Fuses							
		Foot Switch							
		NOTE							
		All equipment needing consumables must allow the possibility to use generic and/or locally made consumables and/or disposables. Compliance to this condition must be declared here by the bidders.							
#VALUE!	**IN-3**	**Syringe Pump**	**2**						

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		The syringe pump should be programmable, user friendly, safe to use and should have battery backup and comprehensive alarm system.							
		Must Work on commonly available standard 5ml/10ml/20ml/50ml/60 ml Syringes with accuracy of minimum of +/- 2% or better, with automatic syringe size recognition.							
		Keep Vein Open (KVO) must be available at 0.1 ml or set rate.							
		Infusion volume 0.1 to 999 ml in 0.1ml increments in lower ranges							
		Infusion rate adjustable from 0.1 – 99.9 ml/hr in (0.1ml/hr steps)							
		System and malfunction alarms with visual and audible alarm indicators							
		Digital display of volume infused. Infusion rate, alarm prompts etc.							
		Volumetric accuracy ± 2% or less							
		Occlusion Pressure limit (from 0 to 750 mmHg)							
		Built-in self test and diagnostics							
		Battery pickup ≥ 60 minute							
		SAVE last infusion rate even when the AC power is switched OFF.							
		Should have comprehensive ALARM package including: Occlusion limit exceed alarm. Near end of infusion pre-alarm & alarm, volume limit pre-alarm & alarm, KVO rate flow, Low battery pre- alarm and alarm, AC power failure and Drive disengaged alarm.							
		Should be including with IV pole.							
		User Manual and service manual in English.							
		Mains power 220- 240V ±6% , 50 Hz British Standard 3 Pin Power Plug / Cable							
		Supplied with complete Accessories :							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		IV pole							
		Battery							
		Operation Manual							
	IN-4	**VOLUMETRIC INFUSION PUMP**	**2**						
		The Volume Controlled peristaltic Infusion Pump having at least following major specifications:							
		Macro mode : 1-999 ml/hr in 1ml./hr increment							
		Micro mode: 0.1-99.9 ml/hr in 0.1 ml/hr increment							
		Volume to be infused 1.0 – 999.9 ml or No limit							
		Infusion Time: 1 ~ 96 hours in increment of 1 minute.							
		the system should (open system) the user can use any infusion set							
		Should be compatible with all standard IV Sets.							
		Presettable rate							
		Infusion accuracy not >±2%							
		Should have Keep Vein Open(KVO) function on completion with least volume : minimum 3 ml/hour or adjustable.							
		Free flow protection							
		Front panel key pad lock							
		Built-in self test and diagnostic							
		System and malfunction alarms with audible and visual alarm indicators							
		Silence or reset of audio alarms							
		Air line detect system							
		Message display for infusion status, alarms, error messages etc.							
		Should have rechargeable NiMH type							
		Battery pickup ≥ 60 minute							
		Automatic flow rate calculation							
		Drug calculation & drug dose programs							
		Multi-dose capability							
		Rate-volume and volume timer programming							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
		The product offered should be USFDA/European CE approved with certificate to be submitted.							
		Mains power 220- 240V ±6% , 50 Hz British Standard 3 Pin Power Plug / Cable							
		Supplied with complete Accessories :							
		IV pole							
		Battery							
		Operation Manual							
مواصفات مكثفات الأكسجين					0				
NO	**Oxygen Generator**				0				
	Standard	**Requirements**							
	Oxygen Generator								
1	**Manufacturer**	Please specify manufacturer and country of origin.							
2	**Model number**	Please specify model number.							
3	**Safety standard**	FDA Approval or CE Marking							
4	**Design and quality**	PSA system for oxygen Generating, heavy duty and high quality							
5	**Capacity**	100 Cylinder/Day							
6	**Application**	Uses pressure swing adsorption (PSA) technology to produce medical oxygen 95%-99% from ambient air, easy to install: preassembled and skid-mounted, or containerized.							
6-1		skid mounted generator including pneumatic electrical and monitoring partes.							
6-2		The operation of the Oxygen Generator is based on the pressure swing adsorption (PSA) cycle using Duplex synthetic zeolite molecular sieve and Duplex air inlet filtration.							
6-3		Soft start or variable speed drive (VSD) compressor, The oxygen generator plan is constiuted the following elements:							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
7	**Air Compressor**								
7-1		Duplex Medical Air Comprssoer.							
7-2	**Capacity**	(please specify)							
7-3	**Lubrication :**	Oil-free.							
7-4		free air Delivery							
7-5	**Driven by electric motors:**	3 phase.							
7-6	**Noise:**	Not more than 80 Db.							
7-7		Stationary Rotary screw Type For medical use.							
7-8		Provide Spring vibration isolators for each compressor.							
7-9	**Operating pressure**	Not lees than 11 bar.							
7-10		Provide Silencers for each compressor.							
7-11		Provide Solenoid unloaders for each compressor.							
7-12		Flexible hoses for Intake and discharge connectors.							
7-13		Provided Shut off valves for each compressor.							
7-14		Provided Safety relief valve for each compressor.							
7-15	**Motror power:**	not less 25kw							
7-16		(FDA): Suitable and fit for oxygen plant air requirement at claimt temperature 5-45 C and altitude 2300 meters above sea level.							
7-17	**Quality standards compliance ISO Compressed Air :**	ISO 8573.1:2001.2.4.1 or equivalent							
8	**Duplex PSA molecular sieves**								
8-1	**Duplex air inlet filtration:**	**Filtration system for the compressed Air:** Feed air quality of the oxygen concentrator should be conforming to ISO 8573 Class 4 and is of filtration grade of 0.01 micron. The filtration system should include both inlet filtration comprising of micro filter and active carbon filter as well as outlet filtration comprising dust fine filter. Type of filters to be specified in terms of Prefilter, Fine filters and activated carbon Filter.							
8-2		Filtered air quality to the oxygen generator should confirm to ISO 8573 class 1/4/1.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
8-3		Filtration system for compressed air should be compatible with module.							
9	**Air Filters including**								
9-1		**Duplex dust filter:** Downstream of the dryers or remove particles down to 1µm, with a DOP penetration of less than 0.03%.							
9-2		**Duplex activated carbon filters:** Installed upstream of the final bacterial filter should provide particle removal to 0.01mg/m³ and a DOP penetration of less than 0.0001%.							
9-3		**Duplex bacterial filter:** fitted upstream of the final pressure should provide particle removal to 0.01 mg/m³ and a DOP penetration of less than 0.0001%.							
10	**Air treatment line (Dryer)**								
10-1		Duplex Dryer.							
10-2		Capacity (please specify)							
10-3		Refrigeration dryer which ensures quality.							
10-4		Air filter providing clean oil-free compressed air with minimal pressure drop.							
10-5		Condensate drain protecting filters and ensuring minimal air loss.							
10-6		pressure dew point not lees then +4°C.							
10-7		Provide Dew point gauge for each dryer.							
10-8		Mountings installed must be anti-vibration.							
10-9		Operating pressure Not lees than 11 bar.							
10-10	**Quality standards compliance ISO Dryer Compressed Air :**	dry compressed air as per ISO 8573-1.							
11	**Air receiver (Tank)**								
11-1		vertical Orientation.							
11-2		Capacity 1000 liters.							
11-3		According to European Pressure Equipment Directive (PED) EC 97/23 or equivalent.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
11-4		Isolating valves : Manually--operated ball isolation valves.							
11-5		pressure gauge According to EN 83701 or equivalent.							
11-6		Safety relief valve 3-way by-pass according to EN ISO 4126-1 or equivalent.							
11-7		Safety relief valve Closed-bonnet type.							
11-8		tank drain automatic electrnic with manual isolation valve.							
11-9		internal and external surface of the tank galvanized.							
11-10		Includes: Air pressure gauge, rilief valve, automatic drain , Air purgation Filters from steam water and particle.							
12	**Medical oxygen generator**								
12-1		Providing medical oxygen in compliance with European Pharmacopeia and USP monograph.							
12-2		Duplex Tank for high efficiency synthetic crystal zeolites offer unique adsorption and purification properties which are the key to high purity oxygen and ensure the longest service life.							
12-3	**Auto change over manifold:**	Providing and fitting of one automatic change over system/ Panel to control the supply of oxygen at 4.5 to 6 bar produced by PLC based oxygen generator and supply the oxygen to pipelines of the hospital. If pressure drops in supply of oxygen from oxygen generator to oxygen cylinder and should also be automatically changed over to oxygen generator from oxygen cylinder when the pressure increases in oxygen supply tank of oxygen generator. 7-10 bar working pressure is available upon request for hospitals equipped with a double stage medical gas network.							
12-4		The oxygen generator produce oxygen in the oxygen cylinders at the requied working pressure of the oxygen cylinders.							
12-5	**O2 output (Nm3/h):**	25 m3/h							
12-6	**O2 pressure (bar):**	4-10 bar							
12-7	**O2 purity (%):**	95-99%							
12-8		Oxygen concentration monitor with +/- 1% accuracy							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
12-9	**Electrical Componentes**	power supply : voltage-frequency-proteciton 220 V 1ph-50Hz.							
12-10	**Mechanical Componentes**	Air Filters, pressure regulators, dial gauges, flow controlling valves and orifice plates, adsorbent tanks, molecular sieve, noise mufflers, all connective plumbing & piping All components and parts in contact with oxygen pass through a quality control process which insures oxygen compatibility and a high degree of cleanness.							
12-11	**Quality standards compliance**	oxygen generators product shuld be CE marked as Medical Devices and ISO 10083 and ISO 7396-1 or equivalent.							
13	**Control Panel / User interface**								
13-1	**The touch screen control panel:**	- Continuous display of the oxygen purity concentration and pressure. - Oxygen concentration [%]. - Oxygen production trending [Nm /hour]. - Output pressure. - Cumulative hours of operation (digital or analogue meter). - Automatically and Manual controls. - Gives access to an enhanced alarming management system. - Capable of drawing historical trending curves.(Optional) - Very easy to use. - Available in many different languages. - Maintenance reminding, failure analysis, operation tracing functions. - System failure alarm, purity low alarm function.							
13-2	**Process control panel:**	The lateral process control panel gives access to a direct reading of the main pressure parameters of the oxygen generating process, along with an innovative calibration system which guarantees the accuracy of the oxygen purity measurement.							
13-3	**Electrical Control Panel:**	Providing and fitting one mains electrical control panel as per oxygen generator module. Control panel consisting of all MCBs, switches, connections to gas plants as well as control switches. The control panel should be compatible with oxygen generator.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
13-4	**Online UPS:**	With at least 30 min backup for PLC of the concentrator plant or as per manufacturers standards.							
13-5		Control the oxygen generator and monitor the complete installation.							
14	**Servo Voltage stabilizer:**	Servo voltage stabilizer of suitable capacity for oxygen plant and allied equipment's with input voltage range 300V-480V & output voltage 415+1% rating 3 phase 50Hz, micro rocessed based digital display suitable for unbalanced / balanced supply and unbalanced/balanced load copper wound with bypass switch, MCCB, selector switches, complete in all respect.							
15	**Alarm System**								
15-1		Providing and fitting of Main Alarm Panel to indicate any abnormality of gas pressure and other failures of the system. Job includes providing of Medical Gas Alarm System for 01 services viz. oxygen.							
15-2		The Alarm System consists of an isolation valve box, pressure sensors , circuit plate with LED colour indicators for visual indications.							
15-3		The Gas Alarm system is sensitive to detect any pressure drop in the supply pipelines.							
15-4		The Alarm System is fitted with electronic hotter/ audio siren for audio indications of pressure drop.							
15-5		The alarm is provided with the manual pressure gauge for indication of pressure in services.							
15-6		It shall have anti-microbial coating labels for touch control.							
15-7		The alarm system shall be complete with digital display, sensor module and power supply.							
15-8		The alarm system shall be complete with all indication controls, wirings, accessories etc as required.							
15-9	**Audible and visual alarms for**	- Alarm when an oxygen concentration is lower than 90%.							
15-10		- High temperature.							
15-11		- Low/High pressure.							
15-12		- Power failure; system failure.							
15-13		- Second/Reserve source active.							

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No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
15-14		- Air dryer pressure dew point (>3°C).							
16	**Oxygen receiver (Tank)**								
16-1		vertical Orientation.							
16-2		Capacity 2,000 liters.							
16-3	**Quality standards**	According to European Pressure Equipment Directive (PED) EC 97/23 or equivalent.							
16-4		Certified for oxygen use by stamping «Oxygen» and manufacturer certificate.							
16-5		Cleanning the Tank and thire companents cleaned for oxygen service based on manufacture reco.							
17	**Cylinder filling station**	Oxygen Compressor (booster Compressor)							
17-1	**Horsepower:**	10 -12							
17-2	**O2 pressuer:**	150 bar							
17-3	**O2 Flow rate:**	25 Nm^3/h							
17-4	**O2 Fill rate:**	100 Cylinders/day Maximum(6 m^3 size)							
17-5	**O2 Suction pressure:**	3-40 PSIG							
17-6	**POWER:**	360V/50Hz (3Ph)							
17-7	**Cooling:**	air cooled							
17-8	**Includes:**	Stainless Steel flexible oxygen hose,high Efficiency motor.							
17-9	**Quality standards**	EDA / CE Quality standards							
17-10		High pressure 02 Manifold 5*2 Cylinders:							
17-11		Includes: High pressure Stinlees steel flixible oxygen hose connected from the oxygen filling manifold.							
18	**Assembling from:**	skid mounted on steel frame includes: All componentes mounted to a metal skid, main power connection is box enclosed, all component connections are wired, circuit breakered and conduit protected to International standerds.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
19	**Main Electrical Panel**	The Main electrical control Panel should be compatible with Oxygen plant and allied equipments and should be flame proof. The Panel should have automatic starter, overload protection, single phase preventer, timer assemblies, emergency stop buttons and indication lamps etc. for successful operation of all the components of the Oxygen plant.							
19-1		Charging of the panel to me included in the scope of work (This requires Cable lying, electrification work from the main panel and earthing works). The entire cabling from the mains to the panel should be armoured cable up to 30 mtrs only							
20	**Requirements**								
20-1		All the equipment's including the accessories supplied as per the technical specification should carry comprehensive warranty for a period of Two years. During this period, the successful bidder shall replace all defective parts and attend to all repairs/break downs and undertake stipulated number of preventive maintenance visits to every user installation site. The cost of spare parts for all replacements has to be borne by the successful bidder during the period of comprehensive warranty.							
20-2		The price include (Installation & Operation)							
20-3		Training (Operation Training AND Maintenance training)							
20-4		FREE maintenance and spare parts for one years from date of installation.							
20-5		Offer price list for maintenance kit for four yaers							
21	**Certification from the manufacturer:**								
21.1		That the bidder has the capability for corrective and preventive maintenance of the unit.							
21.2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.							
21.3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.							

No.	Technical Specifications	Requirements	QTY	U/P($)	T/ P($)	Model	Manuf	Origin	Notes
21.4		Guaranteeing the availability of all spare parts for the next ten (10) years.							
21.5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.							
21.6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.							
21.7		Final operating test by manufacturer							
21.8		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.							
21.9		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.							
22	**Maintenance:**								
22.1		preferred less maintenance needed. 3 years free maintenace, including **PM Kit.**							
22.2		Service manual operation manual {Hardcopy & Softcopy}							
22.3		application software and interface connection Included.							
22.4		spare parts list with code NO							
22.5		Including maintenance and calibration tools.							
23	**Other specification**	Please specify other specification							