Q-1(5)M&E/11-

Specifications for Haemodialysis Chair

1	Should be ergonomically designed and comfortable to the patient		
2	Should allow the patient to rest in full sitting position and lying position.		
3	Should have electronically controlled adjustments for back section, leg section and height.		
4	Should have a patient hand set with controls for all positions.		
5	Armrest should fold to allow side entry of the patient.		
6	Head rest should be detachable and should have manual trendelenburg facility.		
7	Sheet cushion should be made of proper density foam and should have a smooth surface for easy hygiene and cleaning.		
8	Frame should be made up of corrosion free galvanized steel with powder coating and should have four 150mm dia swiveling castor two of which should be lockable		
9	Should be able to withstand a maximum load of 150 Kg.		
10	Should have facility for online weight measurement.		
11	Dimensions(approx+/- 5 cm): Width 63 cm x Length 195 cm(fully stretched)x Adjustable Height(Min 56 cm; Max 78 cm from ground)		

12	Rubber buffers are to be provided
13	Should have an option for manual operation of all controls
14	Should have a detachable drip stand and a tray table.
15	The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
16	Power input to be 220-240VAC, 50Hz fitted with Indian plug
17	Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)
18	Manufactures/Supplier should have ISO certificate to Quality Standard.
19	Comprehensive warranty for 5 years and 5 years AMC after warranty
20	Should have local service facility .
21	All electrical actuators and mechanisms should be housed inside the structure making the product safer
22	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

Q-1(6)M&E/11-

GENERAL SPECIFICATIONS FOR FLEXIBLE DIGITAL URETEROSCOPE

Flexible Digital Ureteroscope Qty -2 (nos.)

1. 8.5 – 9.9Fr sheath
2. Ceramic/ chip on tip at distal end working channel
3. Upward deflection angle 160-250 ^{o} with contrapositive deflection
4. Downward deflection angle 260-280^{o} with contrapositive defection
5. Allows 200micron and 365micron laser fibers through working channel
6. Waterproof, fully immersible in solution
7. Sterilizable with EtO_2, FO gas
8. Direction of view 0^{o}
9. Angle of view 80-90^{o}
10. Working length 60-70cm
11. Working channel diameter (inner): 3.6Fr

Accessories:

1. Case, leakage tester – 2
2. Cleaning brush, flexible, long, for 3Fr working channel – 2
3. LUER – adaptor with seal – 2
4. Grasping forceps, double action jaws, flexible, 3Fr – 10
5. Biopsy forceps, double action jaws, flexible, 3Fr – 10
6. Stone basket, sterile, for single use, 3.0Fr – 10
7. Coagulating electrode, unipolar, 3Fr, length 70-100cm – 10
8. Guide wire, with ball end, 3Fr, package of 10
9. Seal, for working channel, package of 10
10. Cleaning adaptor – 5

Q-1(7)M&E/11-

GENERAL SPECIFICATIONS FOR ULTRASONIC CUTTING & COAGULATION DEVICE

- It should have an ultrasonic generator with a frequency of 40-50 kHz, capable of incising tissue and providing haemostasis with minimal thermal injury.
- It should have both 5mm instruments.
- The generator should be compatible with the following types of shears.
    1. 5 mm Coagulating and cutting shear reusable with high frequency compatibility.
    2. 5 mm Curved Coagulating Shears, 360º rotatable, capable of sealing blood vessels up to 3-5mm diameter, with integrated bilateral hand control to enable precise operation of system by hand.
- The generator should have facility to connect pedal foot switches if required.
- It should produce less cavitation and prevent adhesion.
- It should have the facility of rotating hand switch adapter with integrated bilateral switches to enable precise operation of system by hand for hooks and blades.
- It should have system diagnostics and trouble shooting guide to pinpoint and resolve alert/alarm conditions.
- It should have well-equipped service centre in India
- It should comprise of the following :

Hardware:

1 Generator – 1pc
2 Footswitch & Cable – 1pc

Accessories:

1 Handpiece (Transducer) - 1pc

Laparoscopic Surgery Instruments:

1. 5mm Lap Hand Activated Curved Coagulating Scissors with HF compatible, capable of sealing blood vessels upto 3-5mm in diameter, ergonomic handle – 6 pcs
2. 5mm Lap Dissecting Hook, 30-33 cm length – 2 pcs

Open Surgery Instruments:

1. 9cm shaft, curved, tapered tip for precise dissection, seals 3-5 mm vessels – 2pcs
2. 17-19cm shaft, curved, tapered tip for precise dissection, seals 3-5 mm vessels, as well as lymphatic – 2 pcs
3. 5mm Hand Activated Curved Coagulating Shears capable of sealing blood vessels upto 3-5mm in diameter, Ergonomic Grip – 2 pcs

The probes should be tapered to reduce cavitation significantly.

The scissors supplied should be autoclavable so that can be reused.

Q-1(8)M&E/11-

Specifications of Rigid Videolaryngoscope

Laryngoscope required with video illumination to visualize and document the operational area on screen. It should consist of following features:

- Macintosh blade size2, 3 and 4 with integrated camera and fibreoptic light carrier with LED light for illumination obtaining more than 50000 Lux of brightness.
- In built camera with CMOS technology
- Screen approx 7inch for display with feature control buttons
- Automatic as well as manual white balance facility should be available
- Integrated video as well as still picture recording should be possible on data card with JPEG or MPEG4 format which can be easily transferred to the computer/laptop.
- Safety bag for screen to be provided.
- Unit should run on both a/c and battery with battery life more than 100 minutes
- Stand should be provided to hang the screen
- Accessories like protection cap, tray for cleaning and sterilization of blades (at least two blades at a time) should be provided
- Sterrad and Steris should be permissible for disinfection of blades

Q-1(9)M&E/11-

Specifications for ICU Bed

1. Should have four section mattress base.
2. Complete mattress base should be X-ray translucent, made of high pressure laminate for X-ray & ease of clearing/ disinfection.
3. Should have x-ray platform along the entire length of the bed.
4. It should be possible to insert X-ray cassette tray from either bed ends & either sides along full length and width of the bed.
5. Base frame & support frame should be made up of Aluminium & steel for long life & prevention from rusting.
6. The mattress base should have space for easy cleaning and disinfection of under surfaces.
7. Should have the facility to be converted into chair position.
8. Should have the facility for poses position for relaxation of back and lower extremity
9. Should have a manual quick release mechanism for back section adjustment during emergency situation.
10. Should be equipped with large castors (diameter 125 mm or more) with central braking and steering facility.
11. Mattress of the Bed should be made up of high quality medical grade foam with Anti Microbial agent incorporated into all components for Prohibiting growth of bacteria & fungi. Mattress should be water resistant and hydrostatic pressure over 4000 mm.
12. Should have ABS Collapsible side rails L(3/4 length)
13. Should have a lockable castor with ABS cover of 120 mm diameter with central brake system.
14. Should have five I V sockets in each side.
15. Should have a telescopic dining table.
16. Should have a CPR release for backrest.
17. Should have bumpers at all four corners and place for fixing accessories.
18. Bed should be C.E. marked & manufactured as per ISO 9001, ISO -13485 quality standards, GMP, JIS and CNS certification.
19. Should have stepless adjustment for the following:

Height	:	min 420 mm or better (Hydraulically)
		Max 780 mm or better (Hydraulically)

Back section	:	0-70 degrees or better (pneumatically)
Leg Section	:	0-35 degrees or better (pneumatically)
Trendelenburg	:	12 degrees or better (pneumatically)
Anti-trendelenburg	:	6 degrees or better (pneumatically)
Calf section	:	0-40 degrees or better (pneumatically)

20. Dimensions of bed

Length	:	2150 mm or better
Width	:	820 mm or better
Mattress size	:	800 x 2050x 120 mm
Max load bearing capacity:		225 kg

21. Each bed should be supplied complete with:

a.	Bed Ends, fixed to the frame	:	01 pair
b.	Side rails swing down	:	01 pair
c.	IV Rods	:	01 No
d.	Mattress 12 cm Thick	:	01 No.

Q-1(10)M&E/11-

Specifications of air mattress

Air Pump

Power :220 v/50 Hz
Pressure Range :30 mm Hg - 70 mm Hg
Air Output .8-10 litres I minute
Cycle Time :8 minutes (60 Hz)
Double-circuit reciprocating linear pump. Suspension system design for motor. No noise and vibration.
With portable handle to avoid falling down or damage.

PVC Mattress

- Made of heavy gauge, high elastic bubble pvc (low toxic)
- Reusable and tear-resitant
- Dimensions: 190cm L x 85cm W x 5cm (inflated)
- With 130 bubble cells

Q-1(11)M&E/11

Specifications for Active warming patient blanket

1. Suitable for pre-operative and post-operative applications for pediatric & neonatal use.
2. Should be supplied with a pare of reusable active warming blankets made of made of semiconductor polymer foil.
3. Size of the Blanket Length : (120-210) cm

   Width : (130-135) cm

4. The control unit should be capable of warming two whole body blankets at a time with same control unit.
5. Control unit should be easy to operate colour LDC touch screen to select & display temperature
6. Should offer precise digital temperature control with selectable temperature levels of 36 & 42^{o}C in steps of 0.1 ^{o}C.
7. Should have facility to measure & display the real time core body temperature of the patient continuously on the screen.
8. Should also have on screen graphical display of patient body temperature for the entire duration.
9. Should have facility to independently adjust the temperature of individual blanket.
10. Should also have provision to connect and warm four nos of intra operative blanket/ pediatric size blankets at a time for future requirement.
11. Control unit should automatically detect the number of blankets which are connected to the unit and display the same on the screen.
12. Should have safety features such as Automatic check. Precise temperature control between warming system and patient. Autostop on detecting any problem.
13. Should have non latex anti-bacterially coated, blood fluid Resistant, washable and replaceable covers.
14. The control unit should be light weight not more than 3.6 kg, small in size (23x11x16.5 cm approx) and easily attachable to IV rod/ OT table with fixing claw.
15. Should have low energy consumption and noiseless operation.

Q-1(12)M&E/11-

Specifications for infusion warmer

1. Micro processor controlled infusion warmer system.
2. Should be inline heating system without use of any water or dedicated IV set. The system shall work with regular IV sets.
3. Should have temperature selection facility preferably from 35 to 43 deg. in 0.5^{o}C steps or better.
4. There should be no loss of heat during delivery of fluid/Blood once warmed for delivery up to patient access point.
5. Mountable to standard IV pole.
6. Display of temperature in Digital values.
7. Safety for over temperature cut off at 44 deg. C.
8. The equipment should comply with CE standard.

Q-1(13)M&E/11-

TECHNICAL ***SPECIFICATIONS*** OF MOBILE X-Ray Unit

S.N.	Description of function	Reply	Comments
1.1	Mobile X-Ray Unit is required to perform X-Ray studies in Emergency and trauma departments and at bedside in wards and ICU.		
S.N.	**Operational requirements**	**Reply**	**Comments**
2.1	Compact, lightweight, easily transportable mobile radiographic unit suitable for bedside x-ray fOl"trauma l)aCients. intensive care units. operation theaters and also in the Radiology department for conventional radiography and digital compatibility.		
2.2	The unit must have an effective braking system *for* parking, transport and emergeocy braking. The tube stand must be fully		

	counterbalanced with rotation in all directions		
2.3	It must have an articulated arm for maximum positioning flexibility in any patient position.		
2.4	.AII cables should be concealed in the arm system		
2.5	Exposures with remote control should be possible		
2.6	The unit must have cassette storage facility for all size of cassettes		
S.N.	**Technical Specifications**	**Reply**	**Comments**
3.1	**<u>The Gnlerator:</u>** 1. Must be microprocessor controlled high frequency, output 20 KW or above togive a constant output suitable for radiography 2. It should have a digital display of mAs and kV and an electronic timer. 3KV range:40kV to 125kV		

	4. mA range: 300 mA or more Please specify mA and seconds separately and not mAs alone. 5.Shortest exposure time: I ms.		
3.2	**.X-Ray Tube: .** 1.Output should match the output *of* the generator, 2. Must have a rotating anode with at least: 2500 rpm and focal spot size should be less than Imm. 3.Heat storage capacity of the anode.- > 80,000 J 4.Collimator- Manually adjustable multileaf collimator, rotatable ±90°		
3.3	The exposure release switch should be detachable with a cord of at least 5 meters		
3.4	Remote control operating distance > 10 metres Remote control operating radius-		

	180 deg		
3.5	**DAP Measuring equipment** **(To be quoted as optional)** Technology-Ionisation Chamber, display and control panel. Active area- >140x140 mm. Weight<250 gm Resolution: 0.1 Gym ^{2} Max measurable DAP--10^{6} Gym ^{2}		
S.N.	**System Configuration Accessories, spares and consumables**	**Reply**	**Comments**
4.1	Main Unit with Generator and tube as specified- 01		
4.2	Remote Control Kit 01		
4.3	DAP Equipment(option) 01		
4.4	Lead Aprons Lightweight 01		
4.5	Grid(Ratio 6:1) of following sizes should be provided- 01 each -12”x15”		

	-10”x12”		

The system should contains all the above accessories in Integrated or as separate accessories..

S.N.	**Environmental factors**	**Reply**	**Comments**
5.1	Operationg Temperature 10- + 40 deg.C Storage Temperature - 20 to +55 deg C		
5.2	Operating Humidity- 30%- 80% Storiage humidity 10 % to 100%		
S.N.	**Power supply**	**Reply**	**Comments**
6.1	Power input to be 220-240VAC, 50Hz fitted with appropriate Indian plug		
6.2	Resettable overcurrent breaker shall be fitted for protection		
S.N.	**Standards and safety**	**Reply**	**Comments**
7.1	Should be FDA / CE or ISI approaved product		
7.2	Safety aspects of Radiation dosage leakage should be spelt		

	out		
7.3	Should comply with AERB /BIS Guidelines for radiation leakage and X-Ray equipments..		
7.4	Protection against electrical shock:- Class I, Type B, acc. to IEC 601-1		
7.5	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		
7.6	Comprehensive guarantee for 5 years of complete system including x-ray tubes and electronic items and all other parts for which order will be placed with uptime warranty of 98%. Comprehensive Guarantee period will be extended by double the downtime if it exceeds more than 2% in a year.		

S.N.	Documentation	Reply	Comments
8.1	User manual in English		
8.2	Service manual in English		
8.3	List of important spare parts and accessories with their part number and costing.		
8.4	Certificate of calibration and inspection from factory.		
8.5	Rates of comprehensive AMC for complete system including x-ray tubes and electronic items and all parts for which order will be placed with an undertaking of 98% uptime and extension of AMC period by double the downtime if it exceeds more than 2%.		

Q-1(14)M&E/11-

Specification for Fiber Optic Bronchoscope (adult/ Pediatric)

Each set should consist of the following:

- Total Length –Approx 900mm
- Working Length - Approx 600mm
- Insertion Tube Outer Diameter – 5.0mm
- Distal End Outer Diameter – Approx 4.80mm
- Channel Diameter - At least 2.2mm
- Field of View - 120deg
- Depth of View – 1-3mm to 50to 60 mm
- Bending Section (Minimum)- Up 180deg, Down 130deg
  Standard set should include

  a. Light source with Halogen or better bulb of 150 Watt
     With air pump for leakage testing

  b. Leakage test kit
  c. Standard accessories (compatible with above bronchoscope)
     i) Channel cleaning brush – Four

     ii) Biopsy forceps - Cup - Four

     iii) Biopsy forceps - Alligator- Four

     iv)Halogen bulbs - Four

Q-1(15)M&E/11-

Broad Based Technical Specification for Video Bronchoscope System

1) Slim (Paediatric) Bronchovideoscope : Should have following specifications :

- Slim, Light and possess high resolution image quality.
- Fully immerssible in disinfectant solution.
- Three or more number of remote control switches on control body.
- Compatible with leakage testing device with its air flow and pressure regulation through light sources air pump.

Field of view	:	120 degree or more
Direction of view	:	0 degree, forward viewing
Depth of field	:	3 to 100 mm or better
Distal end outer diameter	:	5 – 5.3 mm or less
Insertion tube outer diameter	:	5 – 5.4 mm or less
Tip bending rage	:	Up 180 deg, Down 130 deg

Working length	:	600 mm or more
Channel inner diameter	:	2.0. mm or more
Minimum Visible distance of	:	3 mm or closer from distal end.
Instrument used thru channel		
Laser Compatibility	:	Nd: YAG, 810 nm diode
Electro cautery compatibility		
Argon plasma compatibility		

2) Therapeutic Bronchovideoscope (adult) : Should have following specifications :

- Slim, Light and possess high resolution image quality.
- Fully immerseable in disinfectant solution.
- Three or more no. of remote control switches on control body.
- Compatible with leakage testing device with its air flow and pressure regulation through light source's air pump.
- Should have capability for early detection of lung cancer(NBI /FISE/I scan)

Field of view	:	120 degree or more
Direction of view	:	0 degree, forward viewing

Depth of field	:	3 to 100 mm or better
Distal end outer diameter	:	6 – 6.3 mm or less
Insertion tube outer diameter	:	6 – 6.3 mm or less
Tip bending rage	:	Up 180 deg, Dn 130
Working length	:	600 mm or more
Channel inner diameter	:	2.8 mm or more
Minimum Visible distance of	:	3 mm or closer from distal end.
Instrument used thru channel		
Laser Compatibility	:	Nd: YAG, 810 nm diode
Electro cautery compatibility		
Argon plasma compatibility		

3) Video Processor :

Compatible video processor for high resolution images. Should have capability to store images with minimum 1 GB capacity. Preferably should have a picture in picture mode. Must be compatible with high definition monitor.

Provision for detecting early stage cancer either by Narrow band imaging (NBI) or any other imaging method.

4) Light Source: (Xenon 300 Watt or more)

High intensity Xenon light source (250- 300 W)
Provision for emergency halogen light.

5) LCD Colour Monitor: Should have following specifications:

- Size 19' or more, LCD monitor of Medical grade of high resolution, with high brightness, contrast and color depth with RGB input.
- Capable of keeping variety of signals – SD, HD video, PC signals.
- Should include AC adapter, power cord.
- CD Rom, DC cable, AC plug holder and monitor stand/ wall mount

6) **Electro cautery unit:** Should have the following specifications:

- Light weight design
- Runs on 220 -240 V, 50/60 HZ
- Should have both monopolar and Bipolar output
- Mode with mixture of cut flow and coagulation flow in selectable intensity/ speed.
- Compatibility with flushing pump.

7) Digital Image transfer:

To meet the need for image storage and archiving, should be provided with built in DV interface to transfer & store on a DV compatible PC.

8) Set should include: PC with UPS and compatible servo voltage stabilizer

9) **Accessories:** In addition to standard accessories should include:

a) Cytology brush- five sets
b) Biopsy forceps – fenestrated cup – five
Alligator - five

For 2.8 mm bronchoscope

c) Biopsy forceps – fenestrated cup – five
Alligator - five

For 2.0 mm bronchoscope

d) Rat tooth/ grasping forceps – two
For 2.8 mm bronchoscope

e) Rat tooth/ grasping forceps – two
For 2.0 mm bronchoscope

f) TBNA needle – single use with multiple use outer sheath- 5 sets (size-20 gauge needle)
g) Accessories for cautery (in addition to standard accessories)
For 2.8 mm FOB

a) Knife - 3
b) Snare – 3
c) Hot biopsy forceps – 2
d) Dormia basket – 3
e) Balloon catheter – 3

h) High quality Atomizer for local anesthesia - four

Q-1(16)M&E/11-

Equipment Specifications for Ventilator-Portable

UNSPSC Code: 42272204
ECRI Code: 18-098

1 Description of Function

1.1 The portable ventilator is used to transport a patient with artificial respiration support or home care of a patient after discharge from a hospital.

2 Operational Requirements

2.1 The portable ventilator should be light weight(< 10 kg)

2.2 Should be microprocessor controlled, portable, light weight.
Should operate with main electric supply as well as with battery.
Should be able to work both with cylinders and pipeline, connectors and high-pressure tubing of appropriate length to be supplied.

2.3 Demostration of the equipment is a must.

3 Technical Specifications

3.1 Should have turbine/venturi/jet mixing- technology for supplying air- oxygen mixture

3.2 Should have following modes of ventilation:
CMV, Assist-contol,SIMV, PS-PEEP

3.3 Audio-visual alarms for
a. Low supply pressure
b. High/low airway pressure

c. Leakage/disconnection
d. Power failure
e. Apnea
f. Low battery

3.4 Should have following settings
a. TV 50 – 1500ml
b. PEEP/CPAP & PS
c. RR up to 40bpm
d. I: E ratio 1:3 to 2:1
e. FiO2 40 – 100%

3.5 Battery back up for minimum 1 hour

3.6 Should fix, on rails of transport trolley and on stand with wheels.

4 System Configuration Accessories, spares and consumables

4.1 Portable Ventilator-01

4.2 Adult Reusable /Autoclavable Silicon Patient Circuit-02

4.3 Paediatric Reusable/Autoclavable Silicone Patient Circuit-02

4.4 Oxygen Hose-01

4.5 Air Hose-01

4.6 Rechargeable Batteries- 01 set

5 Environmental factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 -500 C and relative humidity of 15-90%

5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

5.3 Shall meet IEC-60601-1-2 :200(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.

6 Power Supply

6.1 Power input to be 220-240VAC, 50Hz

7 Standards, Safety and Training

7.1 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450

7.2 Product should be FDA/CE or ISI approved

7.3 Manufacturer should have ISO certification for quality standards.

7.4 Comprehensive warranty for 5 years and provision of AMC for next 5 years.

8 Documentation

8.1 User Manual in English

8.2 Service manual in English

8.3 Certificate of calibration and inspection from factory.

8.4 List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

8.5 List of important spare parts and accessories with their part number and costing

8.6 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

8.7 Must submit user list and performance report within last 5 years from major hospitals.

Q-1(17)M&E/11

TECHNICAL SPECIFICATIONS OF A DEFIBRILLATOR UMDNS Code Defibrillator, External, Automated: 17-116

S.N.	Description of function	Reply	Comments
1.2	Defibrillator is required for reviving the heart functions by providing selected quantum of electrical shocks		

S.N.	Operational requirements	Reply	Comments
2.7	Defibrillator should be Bi Phasic		
2.8	Should monitor vital parameters and display them		
2.9	Should print the ECG on thermal papers		
2.10	Should work on Manual and Automated external defibrillation (AED) mode		
2.11	Should be capable of doing synchronized cardioversion		

2.12	Can be operated from mains as well as battery		

S.N.	Technical Specifications	Reply	Comments
3.6	Should be a Low Energy Biphasic defibrillator monitor with Recorder, having capability to arrest all arrhythmia within a maximum energy of 360 Joules		
3.7	Should monitor ECG through paddles, pads and monitoring electrodes and Defibrillate through pads and paddles.		
3.8	Should compensate for body impedance for a range of 25 to 1500hms		
3.9	Should have a built in 50mm strip printer		
3.10	Should have charging time of less than 5 seconds for maximum energy.		

3.11	Should have bright electroluminescent display for viewing messages and ECG waveform of 4 seconds		
3.12	Should have external paddles with paddles contact indicator – for good paddle contact. Both Adult and pediatric paddles should be available.		
3.13	Should have event summary facility for recording and printing at least 250 events and 50 waveforms.		
3.14	Should have a battery capable of usage for at least 90minutes or 40 discharges.		
3.15	Should be capable of printing Reports on Event summary, configuration, self test, battery capacity etc		
3.16	Should have facility for self test/check before usage and set		

	up function		
3.17	Should have SP02 and non invasive pacing facility		
3.18	Should be capable of delivering energy in increments of 1-2 joules up to 30J and increments of maximum 50J thereafter.		

S.N.	**System Configuration Accessories, spares and consumables**	**Reply**	**Comments**
4.6	Defibrillator -01		
4.7	Paddles Adult (pair) -01		
4.8	Paddles –Paediatrics(pair) -01		
4.9	Patient cable -01		
4.10	ECG Rolls -50		
4.11	SPO2 Finger Probe Adult-02 SPO2 Ear probe -02 SPO2 Paediatric probe- 02		

The system should contains all the above accessories in Integrated or as separate accessories..

S.N.	Environmental factors	Reply	Comments
5.3	The unit shall be capable of operating continuously in ambient temperature of 10 -40^0 C and relative humidity of 15-90%		
5.4	The unit shall be capable of being stored continuously in ambient temperature of 0 -50^0 C and relative humidity of 15-90%		
5.5	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.		

S.N.	Power supply	Reply	Comments
6.3	Power input to be 220-240VAC, 50Hz		
6.4	Resettable overcurrent breaker shall be fitted for protection		

S.N.	Standards and safety	Reply	Comments

7.5	Should be FDA or CE approaved product		
7.6	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms . (OR EQUIVALENT BIS Standard)		
7.7	Drop Test-Withstands 1 meter drop to any edge, corner or surface.		
7.8	Should conform to international test protocols on exposure to shock forces and to vibration forces. The standard should be documented.		
7.9	Should meet IEC 529 Level-2 (IP2X) for enclosure protection solid foreign object ingress.		
7.10	Should meet IEC 529 Level 3 (IP3X)(spraying water) for enclosure protection , water ingress.		

S.N.	Documentation	Reply	Comments
8.6	User manual in English		
8.7	Service manual in English		
8.8	List of important spare parts and accessories with their part number and costing.		
8.9	Certificate of calibration and inspection from factory.		
8.10	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		
8.11	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.		

Q-1(19)M&E/11

GENERAL SPECIFICATIONS FOR CONTINUOS REAL TIME CARDIOVASCULAR HEMODYNAMIC MONITOR

1. It should measure absolute cardiac output value by using bolus indicator dilution method using a small dose of lithium chloride injected via a central or peripheral venous line
2. It should provide real time, beat to beat cardiac output.
3. It should provide real time preload and after load values
4. It should provide real time, oxygen delivery
5. It should provide index values of cardiac output, systemic vascular resistance, left ventricular stroke volume, oxygen delivery etc.
6. It should provide bedside individual management
7. It should be capable of linkage to most commonly found BP monitor
8. It should not be temperature dependent and capable of utilizing existing peripheral or central venous and artery lines.
9. It should provide historical data of all parameter

Q-1(20)M&E/11-

Specifications for Skin Grafting Handle

1) Should be Watson's modification of Humby's skin graft handle with fixed rod

2) Should have adjustable skin graft thickness with a single knob

3) Should have three points to fit the standard blade

4) Should have a locking system

5) Should have CE certification/ US FDA approval

6) Demonstration is an essential requirement

7) Accessories – Skin grafting blades (50 numbers) to be supplied with each handle.

Q-1(21)M&E/11-

GENERAL INSTRUMENT SETS -6 Specifications

Instrument	Nos
Anderson tendon tunneling forces curved 19 cm, 24 cm	1 each
Bard Parker handle round body	2
Back Haus towel clip 9 cm long	6
Sponge holder 12inches long with box joint	1
Sponge holder 10 inches long with box joint	1
Mosquito Haemostat 5 inches long straight	2
Mosquito Haemostat 5 inches long curved	6
Toothed thumb forcep 5 inches	1
Plain thumb forcep 5 inches	1
Adson tooth forcep 5 inches	1
Adson plain forcep 5 inches	1
Needle holder Tungston coated 4 inches	1
Needle holder Tungston coated 5 inches	1
Needle holder Tungston coated 6 inches	1
Allis forceps 5 inches	2
Frazier Suction cannula set of three,2mm 3mm	3

4 mm	
Metzenbaum scissor Tungston coated 18 cm long Straight – 1 Curved - 1	2
Mayo's scissor Tungston coated 16.5 cm long Straight blunt – 1 Curved blunt- 1	2
McIndoe scissor 7 " (18cm) curved on flat with Round points	1
Iris scissor Tungston coated 11.5 cm Straight sharp – 1 Curved sharp - 1	2
Lister bandage scissors - 11.5cm – 1 18.5 cm -1	2
Plantaris tendon stripper 20 cm, 45 cm	1 each
Gillie's Skin hooks	2
Cat's paw with right angle (three pronged retractors With sharp hooks)	2
Ryder's needle holder box joint with tungst2n coated jaws 5 inches – 1 7 inches - 1	2
Spencer wells artery forceps box joint 6 inches curved – 6 6 inches straight- 6	12
Silver's skin grafting handle mini size to fit standard razor	1

Blade with thickness adjustment 7 1/2 inches	
Surgical hand table 8”x6.25”x1.75” Aluminium satin finish	1
Alm self retaining retractor 2.75” 4x4 blunt prongs	1
Desmaires lid retractor blade width 13mm	1
Cottle Jensen Roungeur narrow 18 cm (bone nibbler)	1
Love nerve retractor	1
Kocher’s artery forceps 6 ¼ inches long, 1x2 teeth	6
Halstead mosquito artery forceps curved 5” long, 1x2 fine teeth	6
Urethral dilator set – Lister set of 6	1 set
Autoclavable case to house the instruments	1

Q-1(22)M&E/11-

Technical specifications for Cleft lip and palate instrument set

Six sets are required. Each set should contain the following items

1) 2 Bard Parker handles round in shape
2) 2 Adsons forceps 12.5 cm in size (1 toothed and 1 non toothed)
3) 1 McIndoe forceps straight 18 cm
4) 1 Gillie's forcep toothed 18 cm
5) 2 Sponge holders 24 cm serrated jaws straight and box joint
6) 6 backhaus towel clips 9 cm box joint
7) 1 Dingmann's palate mouth gag (Rectangular frame with adjustable two cheek retractors ,3-4 tongue blades with groove and hole to accommodate endotracheal tube)
8) 1 Castroveijo calipers 9 cm
9) 1 set Lane's mouth gag (small , medium and large-3 in no)
10) 1 Stainless steel scale
11) 1 Adson's cartilage holding forceps 12.5cm
12) 2 Mosquito haemostats straight 12 cm
13) 6 Mosquito haemostats curved 12cm
14) 4 Spencer wells haemostats 18 cm (2curved 2 straight)
15) 1 set Tungston carbide needle holder (6"-1,
9"-1,

12”-1
total 3 nos)

16) 4 Tungston carbide Scissors (Kilner- 12cm 1 curved 1 straight , Metzenbaum -18 cm 1 curved 1 Straight - Total 4 nos)

17) 1Knapp scissors 15 cm

18) 2 Howarth periosteum dissector 5mm-1 , 3mm-1

19) 2 double ended periosteum dissector 15 cm

20) 1 set Palatal rougie (Right , left and straight-3 nos)

21) 1Dental mirror

22) 1 set Frazier’s suction cannula (2,3,4mm diameter total 3 nos)

23) 2 Gille’s skin hooks 18.5cm

24) 1 Autoclavable case to house the instruments

NOTE:-

All instruments should have CE/US FDA approval

Demonstration is essential

Warranty for two years followed by 5 years AMC

Q-1(23)M&E/11-

Rhinoplasty Instrument set - SPECIFICATIONS

Instrument	No
Killian's nasal speculum- 15x40mm 15x75mm	2
Rubin Septal Morcelizer	1
Rubin Osteotome- 16.5x12mm 16.5x14mm	2
Craig Septal Forcep - 9cm straight	1
Cottle dorsal scissors- 7cm	1
Nasal Dressing forceps- 16cm	1
Kilner scissors - Curved pointed-13.5cm Curved blunt-15.5cm	2
Aufricht Retractor -16.5cm	1
Kilner hook - 8.5mm 10mm 13mm	3
Joseph elevator sharp- 17.5cm	1
Freer double elevator - Blunt-20cm Sharp-20cm	2
Nasal Rasp –Double ended -20.5cm 21.5cm	2
Alar hook(cottle) -15.5x2cm	2

14.5x10mm	
SS mallet - 18 cm light weight	1
Padgett nasal mallet with nylon head	1
Frenchey hospital chisel with guard- Right and left-curved & straight	3
Ronzer nasal osteotome with guard on both Sides- Straight 18.5x 6cm Curved 18.5x 6cm	2
Walter osteotome - Straight 19x2cm 19x3cm, 19x4cm	3
McKendy elevator sharp -14.5x4cm	1
Cottle columella clamp – 11cm	1
Cottle nasal knife round – 14cm	1
Adson's cartilage forceps	1
Cottle cartilage crusher clamp with plain bed	1
Frazier suction tube with stillet - 2mm 3mm 4mm diameter	3
Autoclavable instrument container to house a set of instruments	1

NOTE:-

All instruments should have CE/US FDA approval

Demonstration is essential

Warranty for two years followed by 5 years AMC

Q-1(24)M&E/11-

BONE INSTRUMENT SET: 3 SETS

1. Osteotomes: Toughened cutting edge 20 cm long-
   Width: 2mm, 4mm, 6mm, 8mm, 10mm, 13mm, 20mm and 25mm
   Straight one each and Curved one each. (set of 8x2=16)

2. Chisel: Toughened cutting edge 20 cm long-
   Width: 2mm, 4mm, 6mm, 8mm,
   Straight one each and Curved one each (set of 4x2=8)

3. Bone gouge: 7" long with 4mm, 6mm and 8mm wide edge - 1 each (set of 3)
4. Lempert bone rongeur forceps with fine jaws- 7"
5. Bone roungeurs (Luer) Angled on flat: 5.8" and 7" (one each = set of 2)
6. Bone roungeurs (Luer) straight: 5.8" and 7" (one each = set of 2)
7. Mallet – 7" long 150-200 gm
8. Periosteal elevators-
   a. Howarth elevator 9" long
   b. Bristow 8" long
   c. Farabeuf rugine 6" long, straight edge
   d. Farabeuf rugine 6" long, curved edge
   e. Freer double ended 8"
   f. Cleft palate McIndoe raspatory, double ended- small, medium & large (3 no.)

9. Doyen Rib Raspatory Child curved left 1 No.
   Child curved right 1 No.
   Adult curved left 1 No.
   Adult curved right 1 No.

10. Amputation saw with removable blade 9" with 10 blades
11. Retractor- sharp prong cum rachet retractor, blade 2mm deep x 2 cm wide (1 No.)

12. Universal wire and plate sheers 5” (1No.)
13. Ferguson Bone holding forceps- 6” and 8” One each (2 No.)
14. Doyen rib sheer 7” (1 No.)
15. Bone cutting forceps- straight, double action 7” (1 No.)
16. Bone cutting forceps- angled on flat, double action 7” (1 No.)
17. Bone scoop double ended 8”- cup size- 2mm & 4mm (1 No. each)
    3mm & 5mm (1 No. each)
18. Ballenger nasal swivel knife, angled, 3mm, 4mm and 5mm wide (set of 3)
19. SS Wire cutter, 6” long
20. Hayton William wire twisting forceps (6 No.)
21. Autoclavable container to house the instrument set- 1
22. CE or FDA certificate
23. Warranty 2 years and AMC for 5 years
24. Demonstration is essential.

Q-1(25)M&E/11-

Technical specifications Nasoendoscopy System

System to assess the speech in cleft palate patients

1) Paediatric rigid endoscope – 2.7mm diameter
   15-18cm length
   70 degree lens
   } 1 Nos

2) Adult rigid endoscope – 4.0mm diameter
   15-18cm length
   70 degree lens
   } 1 Nos

3) Rigid endoscope sleeve to guard the endoscope

4) Flexible nasendoscope without instrument and suction channel, preferably with points in the field.

5) Light weight microchip camera to fit all the endoscopes

6) Camera console - High definition camera

7) Flexible cable 2 meter long for connecting endoscope to the light source

8) Halogen lamp cold light fountain with two bulbs

9) Monitor 21" – Flat and high resolution

10) Laptop computer for recording images with video recording software, licensed windows 7 or newer software and licensed Microsoft office

11) Laptop hardware specifications – Intel core duo processor,667 MHz processor system ,Cache 4MB, 160gb HDD or higher with dvd +rw with advanced graphics

12) Audio system to record voices of two persons simultaneously along with video recording and two collar microphones as accompaniments

13) Amplifier and speaker complete set

14) Trolley to house the endoscope system and the monitor

15) Demonstration is essential

16) Warranty of minimum 2years or more

17) AMC of 5 years should be quoted.

18) Should have CE certification/ USA FDA approval

Q-1(26)M&E/11

Specifications - Item: O T TABLE (Imported)

OPERATION TABLE FOUR SECTION HYDRAULIC for PLASTIC SURGERY Deptt.

Description of Function

Hydraulic operating Tables are simple tables for performing surgical procedures and it works without electrical power.

Operational Requirements

OT Table is required for general surgery and should have X-Ray translucent tops.

Technical Specifications

Four section table top with detachable Leg section

Table top should be constructed from a fully radiolucent material/Laminate to permit x-ray penetration and fluoroscopy

All table positioning, i.e., height, lateral tilt, trendelenburg, and anti-trendelenburg, except head/back section foot section should be operated hydraulically

Should have a centralized manual position selector, whose location should be preferably at head end

The casings on the frame and centre supporting column should be made of hygienic stainless steel with moulded water proof sealed bellow on column protecting infiltration of body fluids and decontamination liquids

Mattress pad 2" should be radio lucent and suitable for fluoroscopy

Measurements :(all dimensions are approximated to +/- 10 % variations)
Height: 700-1050 mm
Side tilt: + 20 degrees or above
Back section adjustment: - 40 degrees to 80 degrees
Foot section adjustment: should be detachable
Trendelenburg: 30 degree
Anti trendelenburg: 30 degree
Head section adjustment: flexible and detachable
Preferably should have table top manual sliding up to 300mm
Preferably should have Kidney bridge - up to 120mm elevation

System Configuration Accessories, spares and consumables

System as specified
with four large swivel castors , with min. two lockable wheels
Allowing all positioning for patients of up to 150Kg weight
Base Having shock and disinfectant resistant ABS cover
Accessories should include
Padded simple arm rest with straps - pair with clamps
Anaesthesia screen Flexible with clamps
One pair each of Shoulder rests and Side support with clamps
Swivelling head rest for attending head area for care/surgery with all attachments
X-ray cassette tray/holder
Infusion rod with clamp
Patient restraint strap
Pressure management Gel pads for Head / Hands(pair)/ Back pad/ Legs(pair)/ Heels (pair) and special Gel pads for Prone/ Supine and Lateral positions

Standards and Safety

Should be FDA or CE/ ISO approved product

Training and Service

Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

Comprehensive warranty for 2 years and 5 years AMC after warranty

Q-1(27)M&E/11-

Equipment Specifications for I.C.U Beds

ACCESSORIES	
13	Bed Ends, detachable : 01 pair
14	Articulated half length tuck away side rails : 04 Nos.
15	IV Rods : 01 No.
16	Mattress 12 cm Thick : 01 No.
NOTE	
17	Should be FDA or CE approved product
18	Manufacturer should have ISO certification for quality standards.
19	Should have local service facility .
20	Comprehensive warranty for 2years and AMC for next 5 years.
.	
21	Demonstration of the system is a must

Q-1(28)M&E/11-

Specification for C-arm Image Intensifier (Imported)

C-arm :___ **Qty: 01**

Versatile compact C-arm unit with facility to allow unobstructed positioning and enhanced ease of operation in operation theatre. C-arm to have following or better mechanics:

- Motorized vertical travel : 420~500 mm or more
- Horizontal travel : 210~220 mm or more
- Orbital rotation : +90 deg. to -30 deg.
- C-arm rotation : +/- 180 deg.
- Wig Wag movement : +/- 10~12.5 deg. or more
- S.I.D. : 960~970 mm or more
- Clearance between I.I. & Tube : 760~770 mm or more
- Radius of C-arm : 680~ 690 mm or more
- Width of C-arm : 900 mm or less
- Locking of C-arm movements : All locks manually.
- IRIS & collimator Control from panel.

Image Intensifier

- At least triple field 9”/ 6”/ 4” image intensifier having special All metal technology & high resolution input screen.

TV Camera & Memory

Compact CCD camera / Digital Vedio Camera with at least 1K x 1K pixels along with Two No. 18” LCD / TFT monitor mounted on easy to move integrated trolley having facility of recording devices for archiving of images on a hard disk of about 50,000 images as well as on CD/DVD & USB stick in DICOM format. DICOM viewer software must be to view images on PC

The following feature / facility must be included:

- Digital/recursive filters for noise reduction, edge enhancement & motion detector
- Real time image rotation & digital rotation of Last Image Hold.
- Mosoic i.e. display of multiple images on same monitor
- Horizontal / Vertical inversion
- Text overwriting on the image

The system must be DICOM ready for storage and print class.

X-ray generator

High frequency at least 20 kHz or more / DC Converter technology X-ray generator with high capacity stationary anode with 0.6 mm focal spot or better.

Fluoroscopy

- KV range : 40 ~ 110 KV in 1 KV steps
- X-ray tube current : up to 8.0~10 mA or better
- Pulsed fluoroscopy facility with constant / selectable pulse rate.
- Boosted fluoroscopy (HDF) : 0.5 ~ Minimum of 10 mA or better.
- Automatic Dose Rate : Regulation with both KV and mA based on video signal in the central area of the image on TV monitor.
- A laser target device on either monoblock or Image Intensifier must be available for radiation free localization.

Radiography

- KV range : 40 ~ Minimum 110 KV in 1 KV steps
- Current in mA : at least 20 mA or better.

Accessories

1. The complete functional system must be quoted with requisite CVT & spike suppressor. .

Important Conditions :

1. Annual Maintenance Contract charges after expiry of warranty period must be quoted for a period of 5 years.

2. The unit must have passed CE certification in the country of manufacture.
3. Operational Training must be provided to the staff at the time of installation.

Q-1(29)M&E/11-

TECHNICAL SPECIFICATION OF OPERATION TABLE

1. **The Table should have Four sectional Radiolucent table top with longitudinal shift facility**
2. **The four sections should include, Head, backrest, Trunk and leg section (in two sections)**
3. **Height, Backrest, Trendelenburg/Reverse Trendelenberg, Lateral tilt and top slide should be electro hydraullically controlled.**
4. **It should have four section seamless moulded, moisture proof, washable, anti static and corrosion free mattress**
5. **The table should have facility for manual over ride at the base of the table.**
6. **The Base column should be heavy.**
7. **Castors should be lockable with single action brake**
8. **Table top should be 1700-1900 mm with Head section drawn in**
9. **Table Height adjustment: 800-1200 mm**
10. **Back Rest adjustment(Up/Down): 90 deg/30 deg**
11. **Trendelberg: 0-35 deg**
12. **Reverse Trendelenberg: 25-35 Deg**
13. **Leg section (detachable)UP: 0-25 Deg**
14. **Leg section(Detachable) Down: 0-90 Deg**

15. **Laterla Tilt: 0-25 Deg**

16. **Patient weight capacity: 150-200 Kgs**

17. **Standard accessories should include Anaesthetic frame, shoulder support, Lateral support, Geoppel knee crutches, Arm board, Foot rest.**

18. **The Table top should have rail underneath for X-Ray cassette.**

19. **The product should be CE certified and the manufacturer should be ISO certified.**

20. **Physical demonstration may be made available if required.**

Q-1(30)M&E/11-

TECHNICAL SPECIFICATION

Combination Therapy Unit

ULTRASONIC THERAPY:

- It should have Multi Frequency Static Treatment Head (Hands Free) of 1 & 3 MHz with ERA 5 cm^2
- It should have 2 different treatment heads of 5 cm^2 and 0.8cm^2 as standard.
- The treatment heads should have super-clear visible contact control recognition
- Should have magnetic control holder for Treatment head.
- Hands free Ultrasound head should works on the suction method.
- Frequency 16, 48 and 100Hz.
- Two Output Channels.

ELECTROTHERAPY:-

It should have all low and medium frequency current types as mentioned under:
Four-pole interferential therapy, Bipolar interferential therapy, Medium-frequency interrupted alternating current, Asymmetrical biphasic pulsed current, Rectangular pulsed current, Alternating rectangular pulsed current, Monophasic rectangular pulsed current, Monophasic triangular pulsed current, Surge current, Continuous (galvanic direct current, Triangular pulsed current (IG30, IG50, IG100, IG150, IG30 alternating, IG50 alternating, IG100 alternating, IG150 alternating), Medium-frequency interrupted current, MF – Monophase Fixe, DF- Diphase Fixe, CP- Module en Courtes Periodes, CP-id-Module en Courtes Periodes, Isodynamique, LP – Module en Longues Periodes, Micro Currents, High Voltage Currents Interrupted Galvanic Current, Faradic Rectangular & Triangular Current.

- It should have two separate channels for (a) synchronous stimulation of muscle groups.
- It should have more than 60 pre set protocols for treatment indications.
- It should have carrier Frequency of 2K to 10KHz
- It should have inbuilt Vacuum Unit
- It should have more than 200 memory positions to store the patient data.
- It should have S/D Curve for Diagnosis.

- It should have colour TFT screen to display the parameters.
- It should have two separate channels in different current patterns can be applied on two different channels.
- The system should be up-gradable through chip card.
- The system should work on 220-240V/50-60 Hz.
- International Safety Standards like CE/TUV

Q-1(31)M&E/11-

TECHNICAL SPECIFICATION

SCANNING LASER

The unit should be of the following specification:

- Laser protection class : IV
- IEC protection class : I Type BF
- Power Supply : 230 VAC, 50/60 Hz

Laser Scanning Section

- Visible beam : 800 to 808 nm
- Wave length : 630 to 632 nm
- Effective power : 1600 to 1700 mw
- Emission : Continuous and pulsed
- Duty-cycle : 10 – 100%
- Frequency : 10 – 20000Hz
- Laser energy : 0 – 100 Joules
- Rotation of Scanning plan : -45^0 / $+90^0$
- Available protocols : pre-set and adjustable during treatment
- Customised protocols : 80 files with three steps

Hand probe section :

- Laser Source : IR laser diode GaAs
  900 to 904 nm
- Pulse width : 190 to 200 ns
- Peak power : 12W to 15 W
- Frequency : 5 – 10000 Hz
- The unit should have the facility of using the scanning section and the hand probe section simultaneously. He & Ne laser not accepted.

Q-1(32)M&E/11-

TECHNICAL SPECIFICATION

SHOCK WAVE THERAPY UNIT

The unit should have the following features:-

1. The unit should work on the Electro-Pneumatic based principal.
2. The unit should have Ballistic shock wave generation system.
3. The unit should have Pneumatic pressure adjustable up to 1 Bar to 5 Bar.
4. The unit should have frequency adjustable up to 1 Hz to 20 Hz.
5. The unit should have power density up to 0.1 to 0.55MJ/MM^2.
6. The unit should have LCD/LED display.
7. The unit should be supplied with the following probe as an standard:
   10 mm radial, 15 mm focus, 15 mm trigger & 36 mm planar.
8. The unit should be supplied with Hand piece trigger.
9. The unit should be mounted on Wheel Cart for easy transportation.
10. The unit should have International Safety Standard FDA,CE approved.
11. The unit should work on 230 VAC & 50 Hz.
12. Warranty should include software and hardware replacement and upgrades.

Q-1(33)M&E/11-

TECHNICAL SPECIFICATION

DUAL SLOPE TREADMILL

- The unit should have 2.5 to 3.0 HP DC Motor continuous heavy duty.
- The unit should have the Motor Capacity of 2500W to 3000W.
- The unit should have 0.4 to 18.0 KMPH speed range easily adjustable in .1 grades to cater multi purpose usage as patients need.
- The unit should have positive slope angle 0% to + 15% in steps of 0.5%.
- The unit should have negative slope angle 0% to -10% in steps of 0.5%.
- The unit should have walking surface 145 – 150 x 45-50 cm
- The unit should have step of height of 10-12 cm
- The unit should have LCD/TFT Color display with backlight
- The unit should have Auto speed, clinical evaluation, low threshold, progressive shock absorption facility.
- The unit should work on Dual Slope Technology
- The unit should have patient weight capacity of 230 to 235 Kg to provide sturdy and anchoring he ground surface.
- The unit should have test protocol multi functional handlebar, software to display the parameters.
- The unit should have international safety standards like CE/TUV

Q-1(34)M&E/11-

TECHNICAL SPECIFICATION

SEMI-RECUMBENT ERGOMETER

The Unit should have the following features.

- Elliptical motion – provides smooth continuous "zero joint impact" exercise
- Self-powered, self-charging, cordless capability – use it anywhere
- 1:1 arm to leg motion – for natural arm swing rhythm
- Rotating seat to 90^0 on either side and step through design – for easy and safe entry and exit
- Optimized seat height – for wheelchair transfers and controlled hip flexion
- 10 watts to 600 watts - to accommodate a wide spectrum of users
- Constant resistance with 30 effort levels and profiles – provides greater program options
- Integral contact and Polar® Telemetry heart rate monitoring –to ensure proper training intensity
- Sturdy, well-placed grab handles to facilitate patient transfer
- Large easy-to-use "Quick Start" display – features time, RPM, watts, calories, METs, total steps (standard model only), heart rate; plus "Smart" preprogrammed exercise profiles that automatically adjust effort levels
- Large utility holder – provides a convenient storage place for water bottles and allows for hands-free reading
- RS-232 communication port-data collection software is available.
- Resistance : Constant resistance with 30 effort levels
- Heart Rate Monitoring: Polar® Telemetry (chest strap) and contact handgrip
- Certifications : ETL listed to UL1647 and CAN/CSA C22.2 No.68-92, EN957-1, EN957-5.CE conformity to low voltage and EMC directives

Q-1(35)M&E/11-

TECHNICAL SPECIFICATION

MANIPULATION COUCHES

The Treatment couches should have the following features:-

- Height adjustment from 40 to 45cm and 90 to 95 cm Three section(Hydraulic)
- Possible position: Sitting, Lying, Flexion & Trendelenburg.
- Breathing hole and plug.
- Separate leg section.
- Durable, Hygienic and washable upholstery with comfortable padding also around the sides of table top.
- Should be easy to move with retractable castors.
- Lifting capacity should be more than 145 kg.
- Hydraulic Pump Force of 10 N to 12 N.
- International Safety standards like CE/TUV.

Q-1(36)M&E/11-

TECHNICAL SPECIFICATION

ISOKINETIC SYSTEM

The system should have the following features:

13. The system should have provision for the following modes of exercise:
    a)Passive (CPM), b) Isotonic, c) Isometric, d) Isokinetic, e)Reactive-Eccentric mode
14. The system should have facilities to exercise all main joints i.e., Knee, Shoulder, Hip, Ankle, Elbow, Wrist in the standard accessories.
15. The system should have various work simulation tools for job specific evaluations i.e. Multiple Tool Adapters, precision Pinch with Rotation, Spherical Grasp, and Lateral Pinch with Rotation, Three points. Prehension with Rotation, Upper Extremity Wheel, Upper Extremity Wrench, Speeder Wrench Simulator, & Screwdriver Simulator & Prehension with Parallel Grip.
16. The system should have the Pediatric attachment
17. The ankle attachment should have foot resistant system. Shoulder Input tube to enable quick access between the shoulder rotation and scapular elevation exercises.
18. The system should have an attachment for closed kinetic chain testing.
19. The dynamometer should be capable of providing
    Concentric speed up to 475 to 500 deg/sec, Eccentric speed up to 275 to 300 deg/sec
    Concentric torque up to 475 to 500 ft-lb (680 Nm), Eccentric torque up to 375 to 400 ft-lb (544 Nm)
    Passive speed as low as 0.20 to 0.25 deg/sec, Passive torque as low as 0.5 ft-lb
    Isotonic torque as low as 0.4 to 0.5 ft-lb
20. The system should have a dynamometer with hydraulically controlled resistance.
21. The system should have Graphical User Interface with complete computer controlled operation.
22. There should be a facility to set speed independently for each direction on computer screen.
23. The system should have electronic range of motion control with soft stops for impact free control with display on the computer screen.
24. The system should be supplied with clinical data station of suitable configuration and should be on wheels.
25. Unit should have touch screen monitor for step by step information display and user friendly operation.
26. The system should also include a software package with user definable reporting formats, representing patient's status, progress and outcome over time, plot strength pain, ROM.
27. The system should have facilities for dynamic functional imaging to quantify the tests in colour codes via software.
28. They system should have facilities for displaying exercise and test patterns on the computer screen.
29. The software should also include facilities for overlay and comparison of data from different tests.
30. Software should also include biofeedback facilities to track subject performance and motivate them during exercise.
31. The software should also incorporate database facilities with comparison to normative data.
32. Sampling rate of the software should be up to 1800 Hz to 2000 Hz using analog signal interface.

33. Should be supplied with advanced software package to provide customized motor control, movement tracking and data analysis for use in advanced research. Should include analog signal access interface.
21. Should have separate roller trolley to keep the accessories.
34. The chair should be wide and should be electrical height adjustable and should have the possibility of forward/backward movement, rotation and back rest adjustment.
35. Should be supplied with chair wedge suitable to fill the gap created when the seat is flat. Makes the seat more comfortable for supine, prone or side lying exercises.
36. The system should be supplied with clinical data station of suitable configuration and should be on wheels.
37. Pump head should be gas spring controlled for height adjustment & should have facility to rotate & tilt pump head.
38. The supplier should have the experience of having minimum seven successful installations of the same equipment in Government Sector.
39. They system should have only CE/FDA approved.
40. The system should work on 220 V / 50 Hz. Should be supplied with the suitable power stabilizer.

Q-1(37)M&E/11-

Technical Specification

For Knee and Shoulder Arthroscopy System consisting of following Items

- **Arthoscope: Autoclavable**

  - Angle of View 30° **qty 2**
  - Diameter 4mm
  - Length 16cm to 18cm,
  - Fiber optic light transmission incorporated
  - Scratch resistance sapphire tip lens.
  - Rod lens system for optimum brightness, contrast and definition.

- **Arthroscope Sheath, rotatable (compatible)** **qty 2**

  - Diameter 5.5 to 6mm,
  - Working length 12cm,
  - With 2 **rotatable** stopcocks
  - **Autoclavable**, for use with Telescope 30° and 70°

- **Semi Sharp Opturator,** **qty 1**
  Use with arthroscopy sheath, working length 10-14 cm.
- **Hook Probe** **qty 1**
  Graduated

Camera System
Specifications for Full HD Digital Camera **qty 1**

The system should be truly Digital Full HD endoscopic video camera. The system should qualify all the essential criteria for full HD system:

- **Maximum Resolution of 1920X1080 pixels or 1280X1024 pixels,**
- **Progressive scan.**
- **Consistent use of 16:9 format for Input & Output to guarantee genuine HDTV.**

The System should have following Features:

- CCD sensing chip should optimizes image quality & Digital Source Sampling for maximizing hi-fidelity image transmission.
- **Optimizes to Any Size: the system should have** Optical/Digital Zoom to enhance the Quality of Image size & cross specialty standardization of the camera system. regardless of the telescope used.
- The system should automatically optimize all settings. The system should be ready to use as soon as it is connected to the camera control unit.
- The systems should be menu driven, thus allowing the surgeon to program the camera head functions as per the surgical needs and requirement.
- The system should have the following Digital O/P's
- HDTV signal; to DVI socket
- Digital SDI signal
- DV-For digital recording

Technical Specification:

Image sensor:	3X1/3" CCD-Chip
Pixels	1920 (H) X 1080 (V) pixels per chip
Camera head Weight	150-250 grm.
AGC:	Microprocessor controlled
Signal-to-noise ratio	55-65 dB
Lens:	Optical/Digital Zoom Lens with desirable range f=12-35mm
Video Output:	
	Composite Signal to BNC socket.
	S-Video signal to 4-pin Mini DIN socket (2x)
	RGB signal
	HDTV signal to DVI –I socket (2x)
	Digital SDI signal to BNC socket
	DV signal to DV socket

Control Output:	3.5 mm stereo jack plug (ACC1, ACC2)
C.C.U Weight	Should be in range of 2-4.5 Kg.
Power Supply	100-240 VAC, 50/60HZ
Certified to:	IEC-601-1,602-2-18, CSA 22.2 No. 601, UL 2601-1 CE acc.To MDD, Protection class 1/CF or CISPR 11 class A

TFT Flat Screen H D Monitor

The system should have: **qty 1**

- Automatic switchover to PAL.
- Liquid Crystal Display.
- Composite, S-Video, RGB, VGA Compatible. DVI.
- Compact & Lightweight design.
- Drip water protected, dustproof hosing
- Screen Diagonal 21 Inches
- Resolution of 1280X1024

LED/XENON LIGHT SOURCE AND LIGHT CABLE

Specifications:

High Intensity Xenon light Source with spare Xenon lamp or LED light Source
If Xenon light source quoted bidder should separately quote at-least 10 replacement Xenon lamps

Special Features:

- High light intensity with 300watt Xenon lamp Or LED Light
- 500 hour of light bulb life or more in case of Xenon
- High colour temperature – more than 5600 k corresponds to brightness of sunlight resulting in high visual and photographic clarity for colour rendition.
- Monitoring of lamp function.
- Light source should indicate lamp hour in case of Xenon

Technical Specifications:

Lamp type	Xenon lamp, 300watt or LED
Colour temperature	approx 5600-6000K
Light outlets	1
Light intensity adjustment	continuously adjustable from 0 to 100% manually

qty 1

FIBER OPTIC LIGHT CABLE

Specifications:

Size should be 3.5mm, length > 180cm **qty 3**

Specification for Arthroscopy Shaver

High – speed shaver system with:

- Stable torque throughout entire speed range.
- Optionally available high speed shaver hand pieces with rotational speed ranging from 1000rpm to 12000rpm.
- Oscillation of shaver within rotation speed from 500rpm to 3000rpm.
- Choice between hand controls, control vial footswitch or control from the console via LCD touch screen.
- Drill and saw hand piece can be used.

Lightweight handle with switches for

- Selection of rotation (clock wise anti, clock wise and oscillation),
- Control to increase or decrease the rotation speed.
- Suction control on the handle itself.
- High speed hand piece with not less than 12000rpm.
- Autoclavable.

Unit should be supplied with foot switch and shaver handle **qty 1**

Specification for shaver blades preferably reusable: **qty 20**

- Aggressive cutter 4.5mm.
- Full Radius Resector 4.5mm.
- Curved Aggressive Full radius resector, distal tip curved 15deg up to 4 to 4.5mm.
- Round Burr 5.5mm.
- Barrel burr 5.5mm.

HAND INSTRUMENTS

All hand instruments should have one piece outer shaft with excellent control over the cutter process

Punches
All purpose, low profile not more than 3mm enables access to structures in narrow joint areas with large aperture angle allows efficient resection. Should have an ergonomic handle for controlled, measured and non tiring cutting.

(A) **qty 2**

- Straight Cutting width 2.7mm, Shaft diameter 3.5mm, working length 10-15cm
- Upturned 15 deg Cutting width 2.7mm, Shaft diameter 3.5mm, working length 10-15cm
- Jaws curved 30 deg left Cutting width 2.7mm, Shaft diameter 3.5mm, working length 10-15cm
- Jaws curved 30 deg right Cutting width 2.7mm, Shaft diameter 3.5mm, working length 10-15cm
- Jaws curved 90 deg right cutting, width 2.7 mm, shaft diameter 3.5 mm, working length 10-15 cm **qty 1**
- Jaws curved 90 deg left cutting, width 2.7 mm, shaft diameter 3.5 mm, working length 10-15 cm **qty 1**

(B) **qty 2**

- Straight Cutting width 3.4mm, Shaft diameter 3.5mm, working length 10-15cm
- Upturned 15 deg Cutting width 3.4mm, Shaft diameter 3.5mm, working length 10-15cm
- Jaws curved 30 deg left Cutting width 3.4mm, Shaft diameter 3.5mm, working length 10-15cm
- Jaws curved 30 deg right Cutting width 3.4mm, Shaft diameter 3.5mm, working length 10-15cm
- Jaws curved 90 deg right cutting, width 3.4 mm, shaft diameter 3.5 mm, working length 10-15 cm **qty 1**
- Jaws curved 90 deg left cutting, width 3.4 mm, shaft diameter 3.5 mm, working length 10-15 cm **qty 1**

(C) Scissor Punch, **qty 1**

- Straight Cutting width 2.0mm, Shaft diameter 3.5mm, working length 10-15cm
- Shaft curved left Cutting width 2.0mm, Shaft diameter 3.5mm, working length 10-15cm
- Shaft curved right Cutting width 2.0mm, Shaft diameter 3.5mm, working length 10-15cm

(D) Grasper **qty 2**

- Straight spoon shaped jaws Shaft diameter 3.5mm, working length 10-15cm
- Aggress Foreign Body grasper Shaft diameter 3.5mm, working length 10-15cm
- 30deg upturned spoon shaped Shaft diameter 3.5mm, working length 10-15cm

MOBILE VIDEO TROLLEY

- Mobile video trolley rides on 4 antistatic dual wheels.
- Wheels diameter not less than 12cm
- Two equipped with locking breaks.
- Integrated power board provides connection to all units.
- Channel inside the stands to avoid hanging of the cables.
- One drawer with lock.

Q-1(38)M&E/11-

Tender cancel

Q-1(39)M&E/11-

Tender cancel

Q-1(40)M&E/11-

Tender cancel

Q-1(41)M&E/11-

Pulse field gel electrophoresis

Dimensions	43 (depth) X 48 (width) X 17.5 (height) cm
Construction	Aluminum chassis
Weight	Not more than 10kg
Power supply	350V maximum, to allow gradient of 9 V/cm, continuously adjustable; built in
Maximum amps	0.5 amperes
Allowable voltage	0.6-9 V/cm, in 0.1 V/cm increments
Gradients	
Battery back-up	All parameters in memory.
Electrode potentials	Dynamically regulated (feedback adjustment) +/- 0.5%
Data entry	Keyboard
Functional	
Switching range	0.1 sec to 65 K
Switch angle range	90-120° (all electronic switching) in 1° increments
Maximum program blocks	3, with automatic execution
Maximum run time	999 hours per block
Input voltage range	220-240 VAC/50-60 Hz/2amps
Fuses	0.5 amp Fast Blow for high voltage output 3.15 amp Slow-Blow (100/120 V) or 1.60 amp Slow-Blow (220-240 V)

Operating temperature	50°F (10°C) to 90°F (32°C) temperature, 30-80% humidity
Storage temperature	32°F (0°C) to 140°F (60°C) temperature , 10-90% humidity

Electrophoresis cell:

Dimension	Approx 11.4 x 44.2 x 50.3cm, horizontal format
Construction Cover	Vacuum formed polycarbonate
Base	Injection molded polycarbonate
Lid	Safety interlocked
Weight	10.2 kg
Electrode	24, platinum (0.02 inch diameter)
Temperature monitoring	Via precision temperature probe mounted in base of cell

Accessories included:

Variable speed pimp	120V, ground isolated, Flow rate 1 litre/min, typical
Casting stand	
Comb	10-well and comb holder
Tygon tubing	365cm
Disposable sample plug mold	50 slot
Yeast DNA Standard	*S. cerevisae* YNN295, 2 plugs

Cooling Module:

Cooling capacity	75 watts of input power at 14°C
Cooling range	5°C- 25°C

Warranty 2 years

Post warranty AMC 5 years

Q-1(42)M&E/11-

High performance Micro plate Reader(Elisa Reader) along with Micro plate washer

- Micro plate reader should have absorbance detection mode and should be upgradable to fluorescence and luminescence.
- Wavelength Selection should be Double Monochromator with 1nm increment.
- It should have the capacity to handle the plate formats of 6-384 well plate, half well plate and low volume Quantification quartz Tool.
- Wavelength range should be from 230 nm to 1000 nm.
- Plate shaking should be Linear and orbital.
- Light Source should be UV Xenon Flash Lamp.
- Detectors should be UV silicon photodiode.
- Measurement range should be 0-4 OD.
- Spectral scanning and kinetics features for enzymatic study.
- Wavelength accuracy should be < 0.5nm wavelength.
- System should be able to use for-DNA/RNA quantification, Protein quantification, Enzyme profiling, Enzyme assay, ELISA, Binding assays etc...
- System should be upgradable to inbuilt cuvette port in absorbance mode.
- System should be upgradable to Low volume Quantification tool for DNA/RNA quantification of 2ul sample volume in both absorbance and fluorescence with Capacity of 16 samples at a time, Limit of detection 1ng/ul with Quartz Optics
- The system should be provided with all necessary data reduction software for data analysis & computer
- Washer Should have 8 or 12 or 16 channel wash head.
- Dispensing and aspirating needles should be separate.
- Should have 2-4 independent liquid channels.
- Cell washing should be a standard feature of the system
- Should have unpressurised liquid system independent from bottle size and type with any type of bottle to be used
- Wash volume per well should be programmable
- Should have built in microplate shaking during soaking
- Should have minimal residual volume per well (volume of less than 2 ul)
- Should have strip selection option which allows to wash selected strips only.
- Autoclavability of the wash heads and plates carrier is desirable

- Should have cross wise aspiration, over flow washing and bottom washing
- Should be suitable for U, V and Flat bottom micro plate
- Ability of the instrument to incorporate into the robotic system is desirable
- Should be compliant to ISO 13485: quality system-Medical devices- Particular requirements for the application of ISO 9001
- Should be FDA or Euro CE or ISI approved product
- Power input to be 220-240VAC, 50 Hz fitted with Indian plug
- Warranty & AMC as per hospital rules

Q-1(43)M&E/11-

Air Petri sampling system

1. Petri sampling system for standard 90 mm Petri plates and 100 mm plates.
2. The system should be provided with the folding stand where direction of air flow is adjusted to vertical or horizontal.
3. The aspiration volume 300 litres/min
4. The sampler should be powder coated aluminium housing.
5. Operated by electricity and battery
6. Provided battery charger and rechargeable battery.
7. Other accessories
    a. Perforated mounting plate
    b. Cone of 90 mm petri plate should be provided with the apparatus.
    c. Carry bag for the system
8. International certification European CE or US FDA

Q-1(44)M&E/11-

Equipment specification for water purification system

1. Bench top model
2. Attached to pre-filter to take care of fluctuating quantity supply line water.
3. To improve quality of feed water, other equipments/system may be attached, if such a need arises.
4. Should generate triple d/w grade water, purest grade, ultrafiltered water (with 0.22mm), with the following features:
   a. Resistivity 18.2 Mega Ohms-cm at 25°C
   b. Pyrogen free
   c. UV absorbance at 254nm
   d. Microorganisms free
   e. TOC preferably 1-5ppp
5. Equipment should have certain built in feature to check/monitor its functioning. It should comprise of
   a. Pyrogand 5000 capillary fiber filtration
   b. Built in Q-Grade purification pack
   c. Ultra filtration (0.22nm) at final purification stage
   d. Built in TOC monitor should be provided.
6. RS232 port and memory strip preferably.
7. Supported with pr-filter other system, accessories, sanitary fitting etc. complete in all respect so that it can be installed by the company service engineers.
8. Equipment should have digital display resistivity and other water quality measurements.
9. Should have facility to select water temperature measurement/compensation facility.
10. Should be upgradable.
11. Flow rate 0.8-1.2/LPM.
12. All consumables required for installation and standardization of system to be given free of cost.
13. The unit shall be capable of being stored continuously in ambient temperature of 0-50°C and relative humidity of 15-90%
14. The unit shall be capable of operating in ambient temperature of 20-30°C and relative humidity of less than 70%.
15. Power input to be 220-240VAC, 50Hz fitted with Indian plug.\
16. UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.
17. Should be FDA, CE approved product.
18. Manufacturer should have ISO certified for quality standards. Comprehensive training for lab staff and support services till familiarity with the system on site.
19. Comprehensive warranty for 2 years and 5 years CMC after warranty.
20. Certified to be compliant with Electrical Safety Standards for Medical Equipments as per International standard for electrical safety.

21. User/Technical/Maintenance manuals to be supplied in English
22. Certified for calibration and inspection
23. List of Equipments available for providing calibration and routine Preventive Maintenance Support, as per manufacturer service/ maintenance manual.
24. List of important spare parts and accessories with their part number and costing.
25. Log book with instructions for daily, weekly and quarterly maintenance checklist. The job description of clearly spelt out.
26. Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/ para number with authenticated catalogue/manual, without which it will not be considered.

Q-1(45)M&E/11-

Automated microbial identification and susceptibility system

1. Should be compact, latest, fully automated bacterial identification system with mean time to ID/AST results within 6-8 hours. Full automation will be preferable.
2. There should be minimal off-line test required before subjecting the isolate for ID/AST testing.
3. Test card should read kinetically every 10-15 minutes.
4. Should be able to perform at least 60 ID/AST per run
5. Antibiotic Susceptibility Test results must be coupled with biological validation of the quality of the results and result interpretation to facilitate correction for improved clinical outcomes.
6. Option of addition of recommendations by user must be available with the software. Addition of committee footnotes (CLSI, CASFM, DIN) or specific recommendations defined by user laboratory should be permissible.
7. All AST must be done with doubling dilutions of MICs and NOT based on breakpoint MICs. Extended MIC range to enable low-level resistance detection is highly desirable.
8. Should be able to interpret and provide resistance-oriented results which highlight unusual phenotypes like identification of VRE, ESBLs, ampC and MRSA
9. The system also includes a highly advanced software system that then interprets the identified bacteria's antibiotic resistance patterns based on time, site of isolation, place of isolation.
10. The software must have option of report validation interface at least at two different levels (technical and microbiologist). The software must be compatible for LAN/LIS interface.
11. Must provide all accessories and consumables required for installation of the system and all new upgrades and modules available must be installed free of cost during warranty period.
12. Must be provided with barcode reader, barcode printer, barcode stickers and other accessories required of management of samples via barcodes.
13. Must be provided with 2000 ID cards and 4500 AST cards with the system.
14. Customized AST cards are desirable.
15. Must provide quality control strains including ATCC strains as and when required during warranty period.
16. The validation support including onsite IQ/OQ service and documentation and performance of the qualification protocols with travel and labor costs covered must be provided.

17. Prices of all consumables and ID/AST cards must be provided with the system for future requirements.
18. Down time should not be more than 12hrs on any day and cumulative not more than 100 hrs per annum, failing which penalty of one percent of cost of equipment per day shall be deducted from the bank guarantee of the equipment.
19. Five-year comprehensive warranty with parts and labour along with another five-year warranty without parts must be provided with the system.

Q-1(46)M&E/11-

FREQUENCY DOUBLE GREEN LASER

• Portable, Diode Pumped Solid State, continuous wave

• Should control through Remote control at a distance.

• Illumination & Laser Beam should be Co Linear Design, should be on the same pathway.

• Micromanipulator should be integrated inside the Slit Lamp Joystick for fine movement &

beam manipulation.

• Spot Size should be continuously variable from 50-1000 microns with parfocal, ParFocus Cornea Energy Protection System

• Clear View filters for enhanced view and razor-sharp definitions

Laser System : Diode Pumped Solid State DPSS, continuous wave

Wavelength : 532 nm

Ports : Dual Port System

Pulse Rate : Single Pulse, .05 – 1.0 Sec

Duration of Pulse : .01 to 3.0 Sec

Energy : 2.5 W out of an endo-ocular probe, Foot Switch Power Control.

Spot Size : 50-1000 Microns on Integrated Slit Lamp System with parfocal, ParFocus Cornea Energy Protection System

Laser delivery by footswitch as well as switch on slit lamp joystick

Aiming Beam : Adjustable Intensity 635nm nominal, max. 1mW

Cooling System : Air-Cooled / thermoelectric

Accessories : Endo-probes – 10 , LIO (Laser Indirect Ophthalmoscope) – 1, Bulbs for slit lamp, Indirect ophthalmoscope etc

UPS with maintenance free batteries and one hour power back up

Original imported Instrument table Asymmetrical motorized suitable for patients in wheel chair

Origin : Equipment must be ISO 9001 approved manufacture from

Europe, Japan or USA and should Conform to CE standard.

Should be FDA/Equivalent agency approved

Q-1(47)M&E/11-

SPECIFICATION OF INDIRECT OPHTHALMOSCOPE.

1. Binocular with variable Inter Pupilary Distance
2. Filters
   a. Red Free
   b. Cobalt Blue
3. Head Mounted
4. Variable Spot Size
5. Scleral Indentor
6. + 20 D lens, Double Aspheric, with Anti Reflective Coating
7. Assistant's viewing Mirror
8. Extension cord
9. Carrying Case
10. Imported

Q-1(48)M&E/11-

SPECIFICATION OF AUTO REF / KERATO / TONOMETER (ALL IN ONE)

Auto Ref/Keratometer

Objective refractive power

Measurable range Sphere -20.00D to +22.00D (V.D. = 12mm), (0.12D/0.25D increments) Cylinder 0D to +/-12.00D (0.12D/0.25D increments)

Axis 0 Deg. to 180 Deg. (1 Deg. / 5Deg. increments)

Minimum pupil size 2.0 mm

Corneal curvature

Measurable range Radius curvature 5.00 mm to 13.00 mm(0.01 mm increments)

Refractive power 25.96D to 67.50D (n=1.3375), (0.12D/0.25D increments).

Astigmatism 0D to +/- 12.00D (0.12D/0.25D increments)

Axis 0 Deg. to 180 Deg. (1 Deg. / 5 Deg. increments)

Chart Scenery chart

Tonometer

Measurement rage 1 mmHg to 60 mmHz
Measurement range setting APC40, APC60 (APC=Automatic Puff Control), 40, 60

Working Distance 11 mm

- The system should be complete with imported original motorized table / stand from the parent company manufacturing the machine

- UPS of reputed Brand with two hours back-up
- Original built in Thermal Printer
- Five years CMC (Comprehensive Maintaince Contract) after the expiry of Warranty / Guarantee period
- Demonstration of the equipment/ accessories compulsory

****

Q-1(49)M&E/11-

Equipment Specifications for AUTO REF-KERATOMETER

UNSPSC Code:
ECRI Code:

1 Description of Function

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
1.1	Autorefkeratometer is a computerized vision testing machine used obtain and objective measure the eye's refractive error. This measurement provides the most accurate prescription for corrective lenses		

2 Operational Requirements

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
2.1	System complete with all accessories are required alongwith a trolley and printer.		

3 Technical Specifications

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
3.1	Automatic radius measurement		
3.2	Automatic peripheral measurement		
3.3	It should have adjustable tilt Colour LCD Monitor. Active accommodation relaxation		

3.4	IOL measuring mode		
3.5	Reliable PD measurement		
3.6	Large cylinder measuring range up to 10 D		
3.7	Measurement as from 2.3 mm pupillary diameter		
3.8	In-built printer with paper cutter function		
3.9	Refractometry 1.Sphere (SPH) : -30 to + 22D when VD is set to 12mm 2.Cylinder (CYL):0 to +/-10 3.Axis (AX): 1 to 180 degree 4. automatic measurement (release) in the case of correct centering 5. 1 to 10 automatic measurements possible		
3.10	Radius measurement: 1. Surface refraction power 33.75 D-67.5 D in 0.01/0.12/0.25 D steps 2. Radius 5.0 - 10.0 mm in 0.01 mm steps 3. Cylinder size 0-9.0 D(Axis 0deg. to 180deg. in 1deg. steps)		
3.11	Cornea vertex distance 0 1 10 / 12/13.5/15 mm Min. pupillary diameter 2.3 mm Pupillary distance Up to 85 mm in 1 mm steps Printer with cut-off Outputs RS232C and Video NTSC		

4 System Configuration Accessories, spares and consumables

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
4.1	System as specified		

5 Environmental factors

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 15-90%		
5.2	Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity		

	of less than 70%		

6 Power Supply

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		
6.2	Resettable overcurrent breaker shall be fitted for protection		
6.3	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.		
6.4	Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)		

7 Standards, Safety and Training

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
7.1	Manufactures/Supplier should have ISO certificate to Quality Standard.		
7.2	Should be FDA, CE, UL or BIS approved product		
7.3	Comprehensive training for lab staff and support services till familiarity with the system.		
7.4	Electrical safety conforms to standards for electrical safety IEC 60601-1 (OR EQUIVALENT international/national standard)General requirement for Electrical safety of Medical Equipment.		

8 Documentation

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection.		

8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.		
8.4	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		
8.5	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet.Any point ,if not substantiated with authenticated catalogue/manual, will not be considered.		
8.6	List of important spare parts and accessories with their part number and costing.		

Q-1(50)M&E/11-

Equipment Specifications for Autolensometer

UNSPSC Code:
ECRI Code:

1 Description of Function

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
1.1	Autolensometer can obtain accurate lens measurements with minimal training.		

2 Operational Requirements

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
2.1	Should eliminate the subjective nature of manual lensmeter readings and reduce operator error and provide repeatable, objective measurements every time. Can easily and accurately measure all lenses including single vision, multi-focal, and progressive addition lenses.		

3 Technical Specifications

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
3.1	Auto focus / Auto alignment / auto centring		
3.2	Contact lens module		
3.3	Printer attachment		

4 System Configuration Accessories, spares and consumables

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
4.1	Compatible printer for report generation		

5 Environmental factors

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%		
5.2	The unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%		

6 Power Supply

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		
6.2	Voltage corrector /stabilizer of appropriate ratings meeting ISI Specifications. (Input 160-260 V and output 220-240 V and 50 Hz)		
6.3	Resettable overcurrent breaker shall be fitted for protection		
6.4	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.		

7 Standards, Safety and Training

Sl	Name	Technical Specs quoted by	Bidders Deviation if any

		bidder	
7.1	Manufactures/Supplier should have ISO certificate to Quality Standard.		
7.2	Should be FDA, CE, UL or BIS approved product		
7.3	Comprehensive training for lab staff and support services till familiarity with the system.		
7.4	Electrical safety conforms to standards for electrical safety IEC 60601-1 General Requirements (OR EQUIVALENT international/national standard)		
7.5	Comprehensive warranty for 2 years and 5 years AMC after warranty		

8 Documentation

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection.		
8.3	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.		
8.4	List of important spare parts and accessories with their part number and costing.		
8.5	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		
8.6	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet.Any point ,if not substantiated with authenticated catalogue/manual, will not be considered.		

Q-1(51)M&E/11-

OPHTHALMIC ULTRASOUND WITH B-SCAN, A-SCAN AND PACHYMETER PROBES

(A) Main console with built in Color LCD 8.4" TFT monitor.
- Gain / TGC 0 to 90 db variable / 0 to -20db variable
- Video output
- USB memory interface
- Foot switch / dust cover
- Power 230V, 50Hz 1 Phase, 100VA

(B) B – Scan
- B- mode probe 10 MHz transducer, 1550 m/s
- 60 degree scan angle
- Scan depth : normal 35mm, Long 50mm
- Sector line density : 400 lines
- Zoom : X2.5, X5.0
- Moving Image Record : 20 sec.
- Scale : 256 grey scale

(C) Biometry

A-mode probe : 10 MHz Solid probe

Internal fixation : Red LED

Range : 12 ~ 40mm

Accuracy : 0.1mm

Minimum Calculation Stop: 0.01D

Measurement value : Axial length, Anterior chamber depth, lens thickness,

vitreous body length

Built-in IOL formula: BINKHORST, HOLLADAY, SRK, SRK II, SRK/T,

HOFFER Q

(D) Pachymetry with IOP correction

- Pachy probe : 10 MHz Solid probe (Straight & 45 deg. angled)
- Accuracy : 5 micron
- Range : 200 to 1300 micron
- Minimum indicated unit : 1 micron
- Corneal Thickness Value upto 25 points should be available with different patterns.

(E) With Built In Thermal Printer

Key Features

Compact, Touch Panel Display, Tiltable Color LCD, Scanning 400 lines over 60 Deg. Displayed on 1024 x 768 XGA monitor.

Rapid, Accurate and Easy to use for dense cataracts and existing opacities, having option of Dense Cat Switch and Gate Switch.

- F . The system should be complete with imported original motorized table / stand from the parent company manufacturing the machine
- UPS of reputed Brand with two hours back-up
- Five years CMC (Comprehensive Maintaince Contract) after the expiry of Warranty / Guarantee period
- Demonstration of the equipment/ accessories compulsory

****

Q-1(52)M&E/11-

SPECIFICATION FOR

REFRACTION UNIT WITH AUTO CHART PROJECTORAND DOCTOR STOOL

EXAMINATION CHAIR

1. Seat Height: 550-750 mm
2. Inclination of backrest: 100 to 170 degrees
3. Rotation: 0 to 180 degrees
4. Power source: 220 V A/C 50 Hz
5. Load Lifting capacity: 150 Kg
6. Motorized system

STAND UNIT

1. Power supply: 0 to 12 volt, stepwise, for various table mounted equipments.
2. Tray movement: 0 to 90 degrees
3. Tray for trial lens set
4. Prescription table
5. Space for mounting slit lamp
6. Power source: 220 V

AUTO CHART PROJECTOR

1. Refracting distance: 3 to 6 meters
2. Projection magnification: 30x
3. Charts: English, ‘E’ chart, ‘C’ chart, picture charts, Hindi (optional),
4. Automatic shut off

5. Power supply: 220 v
6. Cordless remote control
7. Polarized metal screen
8. Wall mount bracket

DOCTOR STOOL

1. Adjustable seat height: 55-70 cms, hydraulic/motorized
2. 360 degree swivel
3. Cushion seat: with superior quality poly foam
4. Semi sphere adjustable backrest.
5. Good quality wheels for smooth and stable movements and wheel locking facility.

Q-1(54)M&E/11-

TECHNECAL SPECIFICATION OF CO2 LASER FOR ENT USE

IT SHOULD BE A CARBON DIOXIDE LASER, SEALED TUBE, RF-EXCITED, TANKLESS WITH A WAVELENGTH 10.60 MICRO METERS, INFRARED.

- **IT SHOULD HAVE ATLEAST MAXMIMUM RANGE OF UPTO 40 WATTS, WITH HIGH POWER DIODE AIMING BEAM, ADJUSTABLE INTENSITY.**
- **IT SHOULD BE MICRO PROCESSOR BASED.**
- **IT SHOULD HAVE CONTINUOUS, SINGLE PULES AND REPEAT PULSE TISSUE EXPOSURE MODES AND SHOULD PROVIDE FOR RAPIDLY REPEATING PULES MODE OF 800-1000/SEC.**
- **IT SHUOLD HAVE AN AVRAGE CONTINUOUS POWER OF 0.5-50 WATTS OR MORE.**
- **IT SHOULD HAVE A ULTRA PULSE AVERAGE POWER OF 1-50 WATTS OR MORE.**
- **THE BEAM DELIVERY SHOULD BE THROUGH ARTICULATED ARM, 360 DEG ROTATIONS.**
- **IT SHOULD HAVE A TIMED EXPOSURE: ON TIME -0.1-1.0 SEC.**
- **IT SHOULD HAVE A REPEAT DELAY, OFF TIME, 0.01-1.0 SEC.**
- **IT SHOULD HAVE AT LEAST 5 USER DEFINED MEMORY STTINGS.**
- **IT SHOULD HAVE A 0.2 MM AND 1.0 MM HAND PIECE.**
- **IT SHOULD BE SUPPLIED WITH TWENTY NOS LASER SAFTY GLASSES.**
- **IT SHOULD HAVE AN INBUILT SCANNER WITH PRESET RECOMMENDATIONS FOR DIFFERENT PROCEDURES.**

FOR DIFFERENT APPLICATIONS.

- **IT SHOULD HAVE A MULTI – COLOUR TOUCH SCREEN PANEL.**
- **IT SHOULD HAVE A USER FRIENDLY GRAPHIC DISPLAY TO PROVIDE STEP BY STEP OPRATING.**

INSTRUCTIONS.

- **IT SHOULD HAVE A SELF CONTAINED CLOSED LOOP COOLING SYSTEM.**
- **IT SHOULD BE COMPATIBLE WITH 230 V,3A, 50HZ POWER SUPPLY.**

IT SHOULD BE SUPPLIED WITH FOLLOWING ACCESSORIES

1) MICROMANUPLATOR WITH FOLLOWING REQUIREMENTS:

IT SHOULD HAVE AN OPTCAL DESING TO ASSURE PERFECT CO-INCIDENCE OF THE DIODE AND CO2 BEAM EVEN AT HIGHEST MICROSURGICAL MAGNIFICATIONS.

IT SHOULD BE EASILY ADJUSTABLE AND SHOULD HAVE VARIABLE WORKING DISTANCE FROM 200MM TO 400MM.

IT SHOULD HAVE CONTINUOUSLY VARIABLE DEFOCUS WITH A USER ADJUSTABLE DEFOCUS LIMITER.

ITS JOYSTICK HANDLE SHOULD BE TENSION ADJUSTABLE AND UTOCLAVABLE.

IT SHOULD BE USER SELECTABLE FOR LEFT OR RIGHT HAND CONTROLS.

IT SHOULD BE LIGHTWEGHT, TO MAINTAIN BALANCE OF THE SURGICAL MICROSCOPE

PENETRATION DEPTH SHOULD BE 0.2 TO 2MM

2) IT SHOULD HAVE A NASAL PROBES KIT

WHICH SHOULD INCLUDE;

- **NASAL AND LARYNGEAL PROBE FIBER COUPLER**
- **STRAIGHT/ RIGHT AND LEFT ANGLED NASAL PROBES WITH CAPACITY FOR SMOKE EVACUATION**
- **NON STERILE FIBER INSERT FOR NASAL PROBES INPLASTIC TUBE WITH CAO SLEEVE**

-CATHETER SUCTION TUBE

- **LENS CLEANING TISSUES**
- **PIPE CLEANER**
- **SOFT BRISTLE BRUSH**
- **FOLDING MAGNIFYING GLASS**

3) CO2 DELIVERY SYSTEM FOR EAR MYRINGOTOMY

4) IT SHOULD HAVE ORAL, PHARYNGEL AND NASAL HANDPIECE SET WHICH SHOULD INCLUDE

230 MM HANDPIECE UNIT (CVD OPTICAL UNIT, PORTS HOLDER, CONICAL MAIN EXTENDER, CONTAMINATION COLLECTOR), EXTRA CONICAL MAIN EXTENDER,BACKSTOP EXTENDER-3 NOS,TIP EXTENDER-3 NOS, STRAIGHT TIP, NASAL TIP-3 NOS, TONSIL

TIP-3 NOS, 90 DEGREE ANGLED MIRROR TIP EXTENDER, CLEANING BRUSH, TYGON TUBE(8MM ID, 1.5M LONG) W/REDUCER FITTING.

5) IT SHOULD HAVE SMOKE EVACUATOR FOR SMOKE EVACUATION OF CO2 LASER FUMES AND SHOULD INCLUDE

- **PNEUMATIC FOOTSWITCH,VIROSAFE 6 FILTER-6 HOUR DOUBLE PORT 7/8" AND 1-1/4:, VTWT324-7/8" TUBING WITH WAND AND TIP-2 NOS, SMLOF 50-LASER MASK 0.1MM FILTRATION MEDIA(FLAT MASK)**

6) LASER BRONCHOSCOPE SET (IMPORTED COMPATIBLE WITH QUOTED CO2 LASER SYSTEM)

THE BRONCHOSCOPE DELIVERY SYSTEM INCLUDES FOUR DIFFERENT AND A BRONCHOSCOPE TO LASER (B-L)

COUPLER. THE BRONCHOSCOPE DELIVERY SYSTEM CAN BE IN BOTH CONVENTIONAL BRONCHOSCOPY AND CO2 LASER SURGERY APPLICATIONS. FOR LASER SURGERY, THE B-L COUPLER ATTACHES THE BRONCHOSCOPE TO THE LASER UNITS ARTICULATED ARM AND DIRECTS THE BEAM THROUGH THE BRONCHOSCOPE WORKING CHANNEL.

IT INCLUDES:

6.5MM X 250MM BRONCHOSCOPE TUBE

6MM X 350MM BRONCHOSCOPE TUBE

8MM X 450MM BRONCHOSCOPE TUBE

9MM X 350MM BRONCHOSCOPE TUBE

LESER COUPLER ASSEMBLY WITH REUSABLE WINDOW SLIDES

UNIVERSAL CAP WITH WINDOW

INSTRUMENT GUIDE (PERMITTS PASSAGE OF CONVENTIONAL INSTRUMENTS WHEN LASER IS NOT IN USE AUXILLARY ACCESSORIES:

SPARE INSTRUMENT GUIDE (X3)

CLEANING BRUSH(X3)

CLEANING ROD(X3)-FOR CLEANING BRONCHOSCOPE DUCTS

DEMONSTRATION OF EQUIPMENT IS MUST.

COMPREHENSIVE WARRANTY IS 5 YEARS ON ENTIRE SYSTEM.

Q-1(55)M&E/11-

DOUBLE COMBINATION OT CELING LIGHT WITH LED TECHNOLOGY AND CENTRALLY MOUNTED CAMERA SYSTEM

1) Should have the following features:

One major and one satellite Dome /light head

Major dome and satellite Dormer should be of different size/diameter

Single Colour white LED,s

Reflector based Led Technology will be preferred

Arrangement of LED in such a way that Shadow free/Deep cavity illumination is achieved Triangular design maximized the field of illumination and optimized illumination depth

Major dome should have lighting option for MIS near the handgrip

Should have good laminar flow properties

Should have aluminium Housing for efficient heat management and low power consumption

ESG safety glass for simple and fast disinfection process

360 deg rotation of domes/light heads /arms for unlimited positioning of light heads

Control of the light heads and via Wall controls

Should have a third arm for mounting the monitor

Should have easily accessible, serviceable electronic parts on the top of the light heads/domes

Technical Data of Light Heads: **Major** **Satellite**

Light Head Diameter (mm)	690(Variation of 10%)	590 (Varation of 10 %)
Intensity range (Lux)	50000-160000	45000-130000
Life time of light source (h)	>30000	
Depth of Field L1+L2 (mm)	900	1000 (Variation of 10%)
Color Rendering Index	95	
Color Temp(K)	4500	
Light Head Power Consumption	less or equal to 65W at 24V DC	
Radiant Energy	around 3,4mW/m21x	
Temp increase	<2 deg	
Certification	CE/US FDA/ any other International standards	
Working Area from/to (mm)	600-1500	550-1550
Power Supply –Primary Voltage (V AC)	90-240	90-240

2) Centrally Mounted Camera PAL to be mounted ion satellite dome/light head for display real time image during surgery

Technical data:

Sensor:	¼" Super HAD CCD
Video standards:	PAL
Pixels:	Minimum 444000
Video outputs:	Y/C
Zoom	18xoptical zoom, 4xdigital zoom

Power Supply:	via OR light, max.12 W
Image Stabilizer	Yes
Focus:	Automatic, Manual
Iris:	Automatic, Manual
White Balance:	Automatic, Manual

3) Carrier/Monitor Arm for Mounting Single Monitor (up to 14 KG)

4) Monitor flat screen LED (Medical Grade)

5)Video recording System- The company should provide compatible laptop with all facility to do an line recording of the procedure. Hard drive of laptop should be 320 GB minimum

The firms have to inspected the ENT OT for O.T. Light arms Compatibility before submitting their quotations as one of the roofs of OR Room is high.

Variation of 10% should be accepted for all the above specifications in numerical

DEMONSTATION OF EQUIOMENT IS MUST

Comprehensive warranty of two years and AMC for five years

Q-1(56)M&E/11-

SPECIFICATION FOR RHINO-LARYNGO-FIBERSCOPE FOR Pediatric use

- Optical system should be appropriate for use in small children.
- Direction of view 0^{o}
- Depth of field – 2.5 – 50mm
- Bending section range – 100^{o} to 180^{0}
- Length – 270mm (approximately)
- Outer diameter 2.5 mm at distal end
- Compatible light cable if not incorporated in the scope
- Pressure compensation cap
- Compatible Light source 250 Watt. Halogen (220 volts) with stand by lamp
- Accessories to check leakage in the endoscope.
- Any other accessories which is essential for operation.
- Two years warranty.
- Three years AMC.
- Demonstration of equipment if needed

Q-1(57)M&E/11-

SPECIFICATION FOR RHINO-LARYNGO-FIBERSCOPE FOR ADULTS

- Optical system should be appropriate for use in adults.
- Direction of view 0^{o}
- Depth of field – 2.5 – 50mm
- Bending section range – 100^{o} to 180^{0}
- Length – 300mm (approximately)
- Outer diameter 5.2 mm
- 2.3 mm suction channel & instrumentation channel
- Compatible light cable if not incorporated in the scope
- Cleaning brush
- Biopsy forceps
- Compatible Light source 250 Watt. Halogen (220 volts) with stand by lamp
- Accessories to check leakage in the endoscope.
- Any other accessories which is essential for operation.
- Two years warranty.
- Three years AMC.
- Demonstration of equipment if need be

Q-1(58)M&E/11-

Specifications of Articulator Set

1. Articulator set should contain arcon type 6 semi-adjustable articulators
2. Each articulator should contain all standard accessories including following component**s -**
    - **a.** Facebow with all accessories
    - **b.** Transfer stand, transfer jig and transfer table
    - **c.** Bite fork support
    - **d.** Magnetic mounting disc (six pieces)
    - **e.** Intraoral tracing device for centric registration

Demonstration may be needed if required

Q-1(59)M&E/11-

Extraction forceps

1.	No.17, serrated European style right upper molar, made of stainless immunity steel/ equivalent	-	15	
2.	No.18, serrated European style left upper molar, made of stainless immunity steel/ equivalent	-	15	
3.	No.67A, Serrated European style upper third molar, made of stainless immunity steel/ equivalent	-		5
4.	No.51, Serrated European style upper root, made of stainless immunity steel/ equivalent	-		15
5.	No.97, European style upper root, made of stainless immunity steel/ equivalent	-	10	
6.	No.1, Serrated European style upper anterior, made of stainless immunity steel/ equivalent	-	10	
7.	No.7, Serrated European style upper premolar, made of stainless immunity steel/ equivalent	-	10	
8.	No.73, Serrated European style lower molar, made of stainless immunity steel/ equivalent	-		25
9.	No.22, Serrated European style lower molar, made of stainless immunity steel/ equivalent	-		25
10.	No. 79, Serrated European style lower third molar, made of stainless immunity steel/ equivalent	-	5	
11.	No.74, Serrated European style lower, made of stainless immunity steel/ equivalent	-	10	
12.	No.74N, Serrated European style lower root, made of stainless immunity steel/ equivalent	-		15
13.	No.13, Serrated European style lower bicuspid, made of stainless immunity steel/ equivalent	-	10	
14.	No.233, Serrated European style lower root (narrow beak), made of stainless immunity steel/ equivalent	-		10
15.	No.151S, lower incisor anterior, made of stainless immunity steel/ equivalent		5	
16.	No.40, lower molar, made of stainless immunity steel/ equivalent	-		5
17.	No.39, upper molar, made of stainless immunity steel/ equivalent	-		5
18.	No.150S, upper anterior, made of stainless immunity steel/ equivalent	-	5	

Demonstration may be needed if required.

Q-1(60)M&E/11-

SPECIFICATIONS FOR INDUCTION CASTING MACHINE

1. Should be able to cast all metals
2. Casting temperature of up to 2000°C
3. Vacuum / Argon Atmosphere
4. Microprocessor controlled

Demonstration may be needed if required

Q-1(61)M&E/11-

Specifications of Dental Peizosurgery Unit

1. Should have wide variety of applications like oral surgery, Periodontal surgery, Implant surgery etc.
2. Handpiece should be fiberoptic
3. Min frequency range – 28 to 32 kHz
4. Irrigation Flow rate up to 10-85 ml/min
5. It should have multifunction foot Control with following functions - Water Supply on/off, Ultrasonic on/off, Program Control
6. Should be supplied with 10 tips
7. The handpiece and cord should be sterilizable

Demonstration may be needed if required.

Q-1(62)M&E/11-

SPECIFICATIONS FOR MEDICAL IMAGING SYSTEM

1. One HD camcorder with 20X optical zoom, 3 CMOS sensors(1/3 inch), min 64 GB memory card, with macro lens and all standard accessories including –
   - **a.** Tripod stand
   - **b.** Remote
   - **c.** Extra battery
   - **d.** Extra memory card
   - **e.** One DVD recorder

2. 2 Wireless collar microphone and 1 cordless handheld microphone
3. Four Wall speakers min. 100 RMS watt output
4. One Full HD LCD 55 inch display
5. One digital SLR camera of min. 21 megapixel with CMOS sensor, with all standard accessories including –
   a. L series macro lens
   b. Two flashes including one ring flash
   c. Extra memory card
   d. Tripod stand
   e. UV filter for lens

   Other accessories as per requirement of user during installation

Demonstration may be needed if required

Q-1(63)M&E/11-

Specifications for dental compressor

1. It should supply minimum 5 HP power
2. Provide accessories for connection to 6-8 dental units to run simultaneously
3. It should be oil free
4. Tank size min 150 litre
5. Noise level not more than 80 dB

Demonstration may be needed if required.

Q-**1(64)M&E/11**-

Specifications for Dental RVG

CMOS technology
Reduction in patient radiation as compared to X-ray film should be up to 90%
Should supply two sensors –
Minimum active area – 600 mm^2 approx
Minimum active area - 816 mm^2 approx

Thickness of the sensor should be less than or equal to 6 mm
Sensor cable length should be minimum 3 meter
Dynamic range (accurate measurement of bone density), should be more than or equal to 14 bit image acquisition

Computer with LCD color monitor minimum 23 inch touch screen, Intel® Core™ i3 Processor, 3.33GHz, 2 Core, 4 threads with Enhanced Intel Speed step® Technology, Hyper-Threading Technology, Intel® EM64T, Intel® Virtualization Technology, Hyper-Threading Technology, DVD/CD-RW, 8192 MB DDR3, 2000GB hard drive, All-in-4 LaserJet printer

Intra oral X-ray unit should be DC based.

Should have positioning devices

a. Bitewing
b. Periapical
c. Endodontic

Demonstration may be needed if required.

Q-1(65)M&E/11-

Specifications of Dental Elevators

1. Straight luxating elevator 3mm with Non slip grip handle, made of stainless immunity steel/ equivalent 30

2. No. 2S Seldin elevator with Non slip grip handle, made of stainless immunity steel/ equivalent 10

3. No.11A stout elevator with Non slip grip handle, made of stainless immunity steel/ equivalent 5

4. 12 LX cryer Elevator with cross bar handle with Non slip grip handle, made of stainless immunity steel/ equivalent 5

5. 12 RX cryer Elevator with cross bar handle with Non slip grip handle, made of stainless immunity steel/ equivalent 5

6. No.1L Seldin cryer elevator with Non slip grip handle, made of stainless immunity steel/ equivalent 20

7. No.1R Seldin cryer elevator with Non slip grip handle, made of stainless immunity steel/ equivalent 20

14. No. 1 Howard Root tip picker with Non slip grip handle, made of stainless immunity steel/ equivalent 10

15. No.1 Heidbrink root tip picker with Non slip grip handle, made of stainless immunity steel/ equivalent 5

16. No. 44C Bradley elevator with Non slip grip handle, made of stainless immunity steel/ equivalent 20

17. Lucas surgical curette no. 84 made of stainless immunity steel/ equivalent 10
18. Lucas surgical curette no. 86 made of stainless immunity steel/ equivalent 10
19. Oval spoon excavator no. 19W made of stainless immunity steel/ equivalent 10
20. Goldman Fox straight 13 cms with tungsten carbide tips 10

Demonstration may be needed if required.

Q-1(66)M&E/11-

Automated 5 part Differential Haematology Analyser with Reticulocytes

1. Fully automated Haematology Analyser reporting Blood Cell counts, 5 part differential & **reticulocyte counting.**
   26 parameters

   WBC,NE#,NE%,LY#,LY%,MO#,MO%,EO#,EO%,BA#,BA%,RBC,HGB,HCT,MCV,MCH,MCHC,RDW,PLT,MPV,PCT,PDW,**Retic#, Retic%,IRF & MRV.**

2. **System must be based on principal of flow cytometric method using semiconductor laser.**
3. **True 5 part differential analysis by 3 dimensional measurement of volume, conductivity and scatter.**
4. **Linearity:**

WBC	**0.0 TO 99.9 X 1000 Cells/ul**
RBC	**0.0 TO 7.00 X 1000000 Cells/ul**
HGB	**0.0 TO 25 g/dL**
MCV	**50 TO 150 fL**
PLT	**0.0 TO 999000 Cells/uL**

5. **Must be capable of performing atleast 75 samples/hour in primary mode**.
6. System should be equipped with inbuilt Autoloader having minimum of 25 samples at one go with 5 samples mixing simultaneously.
7. **System should allow whole blood closed vial, whole blood open vial & predilution mode sampling.**
8. Sample volume should be 100 to 200 ul.
9. Capability of data storage of atleast 4000 sets of results and graphics.
10. Quality assurance system having 20 control files with 100 runs each.
11. The equipment should preferably have :

i. Definitive flags for abnormal cell types and patterns.
ii. Laboratory defined Quantitative abnormalities and high/low ranges flags.

12. **Must have separate Data manager** with dedicated software and also with external printer.

13. **Results should be available in CBC mode, CBC+DIFF mode and RETICS mode for economical usage of the instrument.**

14. Instrument should have extended platelet counting.
15. There must be facility for sample bar-coding.
16. Should count each sample in triplicate.
17. System should have three Histograms and One Scattergram.
18. System should give alarm for waste container full.
19. Warranty for the Instrument should be for two years.
20. CMC charges for 5 years after the warranty period should be quoted.
21. Company should provide compatible on-line UPS with the Instrument.

Company should provide free reagents for 10000 (CBC + DIFF) samples and 3 vials each for 3 levels controls and one calibrator free of cost with the Instrumen

Q-1(67)M&E/11-

TECHNICAL SPECIFICATION FOR FLOW CYTOMETER

1. Bench top flow cytometer with air cooled argon laser (488nm) and air cooled red diode laser (635nm). All lasers & their excitation and collection optics should be fixed aligned.
2. The system should have capability of 4 fluorescence/ colors and 2 scatters. Total of 6 parameters measurements.
3. Clinically relevant sensitivity for flouroescent channel FITC < 250 mesf.
4. The System should have inbuilt sorter with cell concentration module. The built in sorter should have 3 sort modes & sorting rate of at least 12000 cells / min. the cell sorting should be aerosol free.External sorter should not be quoted.
5. Machine should come with an inbuilt 40 tube autoloader for analysis.
6. The system should have upgradeability feature for inbuilt walk away automation for flow cytometer analysis from 96 and 384 well plates directly.
7. System should be capable of doing cytometric bead array and should be compatible with cytometric bead array software.
8. The System should have capability to analyze HLA-B27 test and software for HLA-B27 should be compatible.
9. Compatible data management system with monitor, CD rom/DVD drive and color laser printer should be provided.
10. On line UPS of reputed firms for the whole systems with maintenance free batteries of reputed make having at least 60 minutes backup (3 KVA).
11. Antibodies for leukemia, lymphoma phenotype, fluorochrome labeled CD-2,3,4,5,7,8,9,10,11,13, CD 14, CD15, CD19, CD20, CD22, CD23, CD25, CD33, CD117, HLADR, anti-MPO, CD55, CD59, CD 103, CD41,42 CD61 (100 test each).
12. Calibration & controls kits as well.
13. Lyse solution – 2 Pack
    Sheath fluid – 400 litres

Calibrate beads – 3 Sets

Reagent tubes – 10000

DNA check kit – 1 Kit

14. Micropipette variable volume(3 sets)

15. The company should have 25 or more installation of FCM in government institution in India.

16. Flow cytometer training & service centre close to Delhi.

17. Five years (Comprehensive Maintenance Contract for the whole system with spares including computer systems (Monitors & CPU & Printer & UPS including batteries).

18 . Appropriate size working table for the instrument.and the electrical connections

Q-1(68)M&E/11-

Gel Card based Micro Typing system for Blood Grouping, cross matching. Antibody Screening and syphilis test.

Micro Typing System Reader with Centrifuge for ID Gel Cards for blood grouping, Cross Matching and Syphilis, Ab. Screening etc. with single antigen option.

1. The equipment should Centrifuge, read and interprets Micro Typing Cards in one working step.
2. Capacity for 24 gel Cards with 6 "V" bottom shaped tubes based on Gel technology.
3. Results can be validated, stored, printed and sent to host computer. I reader with high resolution CCD Colour camera for image analysis of processed cards.
4. Able to perform more than 50 different kind of test including specialized tests like Syphilis antibody test, PNH, Sickel Cell (HbS), Heparin/PF4 Ab Test (HIT), All Rare antigen id Cards, Partial RhD, D_{weak}, etc.
5. User list of at least 50-100 Indian customers using Gel technique based Micro typing system.
6. Full Positive identification of Gel Cards.
7. Incubator to incubator 24 Gel Cards.
8. One additional micro type centrifuge to be provided along with this system.
9. Centrifuge should have built in battery back up.
10. 2 years guarantee
11. 3 years AMC.
12. Company should provide 500 Nos of ABO/Rh card and 5oo Nos of cross match and 100 Nos of syphilis cards.

Q-1(69)M&E/11-

STERILE TUBE CONNECTOR DEVICE

Total No. required one

Name of equipment – Sterile tube connector for Blood Bank

Specification

(1) It should give strong consistant welds.

(2) It should work regardless of wet to wet, wet to dry and dry to dry tubing combination.

(3) LCD display and status report regarding completion.

(4) It should be portable

(5) It should be applicable for component pooling, Aphaeresis set modification. Quality control sampling.

(6) It should work with Tubing Size 3.8 to 4.5 mm on PVC tube material

(7) It should weld all prevalent Blood Bag in India.

(8) It should have wafers disposable Box.

(9) Company should provide at least 1000 wafers along with equipment.

(10) Single water loading.

(11) Two year guarantee and Five year AMC.

(12) FDA approved/CE marked device.

(13) Single button operation.

Q-1(70)M&E/11-

Deep freezer- minus 80^0 Celsius (1-No)

Operational Requirements-

- To store the chemicals and blood samples at low temperature

Technical Specifications:

- Ultra low temperature freezer with operating temperature from 0° C to minus 80° C
- External casing- power coated galvanized steel metal
- Temperature accuracy - ± 2° C.
- Digital temperature controlled cum indicator with power failure alarm
- Temperature LED display indicator
- Upright (vertical), capacity - 400 liters approximately, with 4-6 numbers of trays
- Shelves - steel with plastic coating or Stainless steel trays
- Polyurethane (around 150mm) for thermal insulation
- Mounted on castor wheels.
- Hermetically sealed compressor with cooled condensing unit. PUF - CFC free refrigerant system.
- Voltage stabilizer and UPS suitable with 1 hour power backup
- Power supply- 240 V, single phase 50 Hz.
- Locking system

Q-1(71)M&E/11-

Hot Plate (2-Nos)

- **Description of Function**
  - Hot plate is required for recording reaction time in mice to heat stimulus.

- **Technical Specifications**
  - Heating plate > 4mm thick of copper sheet.
  - Reaction time display in 0.l second increment.
  - Solid-state temperature regulation with LCD graphic display of Temperature in 0.1 degree C (scale range from 2 deg C to 60 deg C)
  - Dedicated Data Acquisition Software Package.
  - The Experimental data can be directly exported to the PC through USB or serial ports.

- **Power Supply**
  - Power input to be 220-240V AC, 50Hz fitted with Indian plug
  - Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

Q-1(72)M&E/11-

ANESTHESIA WORK STATION

A system integrating anaesthetic gases flow delivery vaporization, monitoring and ventilation

1. Anesthesia machine constructed from welded tubular / epoxy powder painted steel. Stainless steel top and 1 no. lockable drawers and electrical outlet to be provided. Should have large castor wheel with foot brake. Gas specific, high pressure forged brass gas blocks with integrated pin indexed yoke for oxygen and nitrous oxide with long lefe metal diaphragm with non interchangeable gas supply inlet (Pipeline connection) for oxygen, N2O and air with color coded HP antistatic tubes.

2. Separate colour coded large gauges to indicate cylinder and pipeline pressure of oxygen, nitrous oxide and C air.

3. Having mechanical hypoxic guard incorporating nominal basal flow of atleast 100 ml for minimal flow anesthetic techniques with system on / off switch

4. Having reservoir based audible oxygen failure alarm of at least 7 seconds.

5. Dual cascaded flow meter for oxygen, nitrous oxide and single for C. Air accurately calibrated with an accuracy of + 2.5 % and range of at least 10 ltr./min.

6. Emergency oxygen flow of at least 35 ltr / min with non locakale push button to be provided.

7. Should have selected twin vaporizer manifold with automatic interlocking facility

8. Having 3 latest vaporizers for halothane sevoflurane and isoflurance all should be temperature, pressure and flow compensated, with key filling arrangement and should be quick mountable.

9. Agency capacity should be minimum 225 ml of free volatile anesthetic agent.

10. Should be integrally fitted with at least 2 kg capacity reversible canister, double chamber type of CO2 absorber system having provision to bypass. Absorber system through a switch and ventilate with bag

11. All sensor connection shall be internal to help prevent disconnection.

12. Electrically operated pneumatically driven integrated anesthesia ventilator, bag in bottle type with volume control with pressure limited and integrated PEEP.

13. Ventilator should automatically compensate for fresh gas by adjusting fresh gas flows for changes in fresh gas flow, small system leak changing lung compliance or compression losses.

14. The ventilator should have bellows and be integrally mounted to absorber system

15. Should have large LCD display for patient data like, TV, MV frequency 02 conc., P Mix. P Mean and air way bar graph along with set data simultaneously

16. The display screen should be mounted in alarm for easy viewing

17. Facility to change I:E Ratio should be provided.

18. Alarming setting should be available for low and high and tidal volume, minute volume airway pressure and apnea.

19. The ventilator to have at least 60 minutes battery back up

20. The anesthesia system should have a integrated passive scavenging system with

pressure relief valve.

21. The anesthesia machine should have monitoring facility of following parameter in a suitable single monitor :

22. Monitor should be with multi-parameter module with minimum

15 inches colour TFT display with 8 channels.

23. The monitor should not require any, lengthy start-up procedure or calibration. It

should be ready to monitor as soon as on / off switch is pressed.

24. Should have 24 hours graphical and numerical trend with split screen facility of all parameters with at least 15 critical alarms summary.

25. Monitor to have ventilation, haemodynamic and oxygenation calculation with drug calculator package

26. Should be able to monitor and display all parameters in single screen.

ECG

5 Lead ECG with simultaneous display of 3 lead with ST measurement. Waveform frequency response should be from 0.5 to 2.5 Hz. Arrythmia detection facility should be provided.

RESPIRATION

1. Range should be 6 to 60 BPM with waveform should have alarm for apnea and high and low alarm limit for respiratory ate.

2. Monitor shall incorporate two temperature channel ranging from 20.0 to 45 C with an accuracy of atleast + 0.1 and resolution of 0.1 C.

NIBP & IBP

1. Should be measured through oscillometric principle with automatic recognition between adult / infant numeric display should show systolic, diastolic and mean pressure values

2. Should have two IBP Channels with suitable compatible accessories.

Pulse Oximetry

1. Should be measured through red and infrared light absorption

2. Waveform display should show diagnostic plethysmograph in user adjustable scale.

CO2

1. Should be measured through side stream infrared absorption technique

2. Measurement range should be atleast 0 – 10%

3. Breath by breath capnograph display

4. Numeric display of inspired and end tidal CO2

Patient Oxygen

1. Should be measured through differential paramagnetic sensor or fuel cell technology (to be supplied for 5 years).

2. Measurement range should be at least 0 – 100%

3. Breath by breath oxygram display

4. Numeric display of inspired and expired oxygen.

Agent Monitoring

Agent monitoring for nitrous oxide, halothane, isoflurane, sevoflurane and desflurane should be provided.

Should have following accessories:

1. 5 Lead ECG clip with cable (4 in No.)

2. central and skin temperature probes (2 each)

3. adult and paediatric SPO2 sensor with cable (4 each),

4. adult , pediatric & neonatal cuffs with hose (4 each),

5. anesthesia gas / spirometry accessory kit (4 each).

6. IBP reusable transducers with cable (4 in No.)

7. Disposable domes with complete kit (100 in No.)

8. Etco2 sampling kits (20 in No.)

9. Disposable anaesthesia breathing circuits.

General Conditions

1. Should enclose compliance statement.

2.Should have service facility in Delhi.

3. Must submit printed catalogue and technical data sheet to substantiate the offer.

4. All imported components like machine monitor and ventilator should be from one manufacturer/ principal.

5.Any misinformation regarding the specification of the equipmentoffered would mean outright technical rejection.

6. Demonstration of the equipment is mandatory.

7. Warranty : 98% uptime warranty period of the complete system with extension of the warranty period by double the downtime period.

8. Comprehensive Maintenance Contract:

(a) For the main equipment along with accessories for five years

(b) With labour and spares after satisfactory completion of warranty period.

(c) The cost of CMC should be quoted along with the taxes as applicable, on the date of tender opening.

(d) Cost of CMC will be added for ranking purposes.

(e) The payment of CMC will be made on six monthly basis after satisfactory completion of contract, duly certified by user.

(f)There will be 98% uptime warranty during CMCperiod for complete system with extension of CMC period by double the downtime period.

9. Back to back warranty to be given by supplier from principal/manufacturer of the equipments to supply spares for a minimum of 10 years.

Q-1(73)M&E/11-

SPECIFICATIONS FOR ICU VENTILATOR

1Must be microprocessor controlled ventilator compatible for neonates to adult and should be upgradeable.

2.Should be based on time cycled, volume constant and pressure-controlled principle with options of continuous base flow for neonates

3.Should have following modes of ventilation for both invasive and non-invasive : IPPV, CPAP / PEEP, BIPAPP / DUOPAP , SIMV with presure support, CPAP with pressure support, pressure regulated volume controlled (PRVC) / Volume Assured Pressure Support (VAPS) / Automode / ASV/ Autoflow / Volume support and APRV

4.Should have leak updated triggering to minimize auto - cycling

5.Should have adjustable flow triggering from 0.3 - 12 LPM

6.Should have option for flow and volume monitoring at Y-piece for neonate patients

7.Should work on all external sources : External AC Internal battery

8.Should have integrated colour TFT / colour TFT touch screen display of atleast 10" or more for displaying and monitoring of respiratory mechanics including loops.

9.Should have inbuilt electronic blender

10.Battery back for atleast one hour for both compressor and the ventilators should be there.

11.Machine must have provision for following settings

a)Tidal volume : 2 -2000 ml (10ml in volume control mode

b)Flow : 1 litre per min. - 180 liter per min

c)Flow pattern : sine , square, 100% decelerated or 50% decelerated

d)Inspiratory plateau : 0-70% Inspiratory time e)Frequency : up to 100 bpm

f)PEEP / CPAP : 0-50 cm H2O, reusable patients filter g)Pressure support : 0-100 cm H2O h)FiO2 : 21-100%
i)Trigger sensitivity: flow 0.5 - 15 lpm all patient initiative breath

j)Pressure : 0.5 - 10 cm below PEEP / CPAP k)I:E: Inverse ratio up to 4:1

l)Apnea back up m)100% oxygen : for at least 3 min, for suction

n)Inbuilt nebulizer o)Inspiratory pause and expiratory pause

p)Should have the facility to adjust the rate or rise in the inspitatory pressure

12.Should have buil-in user-friendly graphic screen for the monitoring of the following parameters, wave formas and loops

a)Volume : Vti, Vte,MV, MV leak, MV spon.

b)Airway pressure: Peak , Mean, Plateau and Min

c)Frequency : tidal, mandatory and spontaneous

d)Resistance and compliance e)FiO2

f)Real time flow, pressure and volume curves

g)Loops for pressure vs volume, pressure vs. flow and volume vs. flow

h)Graphic trends for R,C, FiO2, Mean pressure, MV, PEEP etc.

i)Log book for last 1000s events

j)Pressure : 0.5 - 10 cm below PEEP / CPAP

k)Monitoring like Rapid shallow Breathing Index, Negative Inspiratory Force and Pressure Support Volume

l)Upper and lower inflection points

13.There must be a software package that is P/V tool maneuvered for calculation and display of respiratory mechanics like dynamic mechanical monitoring etc

14.Should have also following features

a)Safety Relief Valve - 100 cm H2O

b)Automatic leakage compensation and complaince compensation

c)Should be able to ventilator the patients with air in case of oxygen and gas supply failure

15)Should have audio - Visual alarms for following :

a)High or low airway pressure

b)High or low tidal volume

c)Tube blocked or disconnection

d)Gas supply failure, ventilator inoperative

e)High or low respiratory rate

f)MV low or high

g)Apnea

h)Lose of PEEP

i)Main power, air , oxygen supply failure

j)Oxygen: Minimum or High Oxygen

16Should have servo-controlled humidifier with heated wire and monitoring of inspired gas temperature

17.Ventilator should be upgradable (optional) to the following modules :

a)ETCO2 monitoring

b)Heliox gases monitoring

18.Ventilator should be FDA or CE certified

19.Manufacturer should be ISO certified for the ventilator being offered

20.Should have mobile trolley and hinged arm of non-corrosive material. .(SHOULD BE FROM THE SAME MANUFACTURER, no indigineus trolley will be acceptable)

21.Following accessories should be supplied for each unit :

a)Two sets of patients hose (Silicon reusable circuits) each for adult pediatric and neonates with one test lung each for each category of patients.

b)Oxygen and Air hose of 5m length

c)Hinged arm - 1 No.

d)Servo - controlled humidifier with two chambers and two heated wire.

e)Mobile Trolley - 1 No

f)Nebulizer - 1 No.

g)Medical Air compressor from the SAME manufacturer complying with CE & IEC certification.

h)Masks for non-invasive ventilation: silicon material , cushioned, oro-facial and nasal masks of good quality, with straps for fixing - 1 each (oro - facial and nasal) of different sizes (I.e. large, medium and small size).Should have the option to choose the quality or brand of masks at the time of demonstration.

22Demonstration is a must

Q-1(74)M&E/11-

SPECIFICATIONS FOR PATIENT WARMING SYSTEM

1. Should be suitable for intra-operative applications.
2. Should consist of active warming arm-cum-shoulder section, pair of leg segments and abdominal segment to cover the entire body.
3. Should be based on semiconductor polymer foil for precise warming of entire patient body during & after surgery.
4. Size
   - Abdominal Segment : (40-45) cm x (85-90) cm
   - Arm & Shoulder Section : (170-175) cm x (28-32) cm
   - Leg Segment : (40-45) cm X (85-90) cm
5. Control unit should be capable of warming minimum four segments at a time.
6. Control unit should have Color LCD touch screen for easy operation.
7. Control unit should have touch screen display to select & display temperature of all four segments at a time.
8. Control unit should automatically detect the number of segments which are connected to the unit and display the same on the screen.
9. Should offer precise digital temperature control with selectable temperature range of 36 to 42º C in steps of 0.1ºC
10. Arm cum shoulder segment should be divided in two sections capable of being switched ON or OFF independently depending upon the nature of surgery and condition of patient.
11. Should have facility to measure & display the real time core body temperature of the patient continuously on the screen.
12. Should also have on screen graphical display of patient body temperature for the entire duration of surgery.
13. Should have facility to independently adjust the temperature of individual segment.
14. Should have a provision to connect whole body blanket & pediatric size blanket to the same control unit for future requirement.
15. Should have safety features such as Automatic check, Precise temperature control between warming system and patient, Autostop on detecting any problem
16. Should have non latex anti-bacterially coated, blood and fluid Resistant covers
17. Covers should be washable and replaceable
18. The control unit should be light weight not more than 3.6 kg, small in size (23 x11x16.5 cm approx.) and easily attachable to IV rod/OT table with fixing claw.
19. Should have low energy consumption and noiseless operation

Q-1(75)M&E/11-

Specification of Pediatric Fibre-optic Bronchoscope

1. Light weight, high resolution.
2. Operating Suction should be submersible.
3. Bending mechanism without lock.
4. Leak testing facility with automatic air feeding system preferable.
5. Video adaptor eyepiece to be provided.
6. Should be supplied with standard accessories.
7. Field of view 90^0or more
8. Distal end diameter 3.5 mm approx.
9. Depth of field 2 to 50 mm or better
10. Bending range Up 180° approx., Down 130° approx.
11. Working length – 600mm or more
12. Total length – 900mm or more
13. Halogen light with white light output. Extra bulbs 2 in no.
14. Autoclavable suction valve
15. Telescopic eyepiece for direct compatibility to CCTV System.
16. Bending mechanism knob without lock.
17. Fully immersible in disinfectant solution.
18. Leak testing facility with automatic & pressure regulated air feeding (non-pressure gauge system preferable) through light source is preferable.

19. Standard set should include reusable and autoclavable biopsy forceps (1no.)

Halogen Light source:

I t should be compact and lightweight around 5-6 kg or lessfor easy transportability.

Should have150 watts halogen lamp with standby lamp option.

Should have built inair pumpfor distension& automatic leakage testing.

Should be compatible with rigid and flexible endoscopes both.

Pump pressure0.3-0.6kg/cm2(at Occ./min))0.18kg/cm2or below(2000cc/min.)

20. Cleaning/maintenance kit including container for disinfectant solution

21. Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/ data sheet

22. User list to be provided with performance certificate

23. Demonstration is a must.

24.. Should have local service facility

25. Comprehensive Guarantee 2 years & 5 yrs CMC INCLUDING ALL PARTS.

Q-1(76)M&E/11-

Specification of ADULT Fibre-optic Bronchoscope

1. Light weight, high resolution.
2. Operating Suction should be submersible.
3. Bending mechanism without lock.
4. Leak testing facility with automatic air feeding system preferable.
5. Video adaptor eyepiece to be provided.
6. Should be supplied with standard accessories.
7. Field of view 120° or better
8. Distal end diameter 5.9 mm or less
9. Depth of field 3 to 50 mm or better
10. Bending range Up 180° approx., Down 130° approx.
11. Working length – 600mm or more
12. Total length – 900mm or less
    Channel diameter 2.8 mm or more
13. Halogen light with white light output. Extra bulbs 2 in no.
14. Autoclavable suction valve
15. Telescopic eyepiece for direct compatibility to CCTV System.
16. Bending mechanism knob without lock.
17. Fully immersible in disinfectant solution.

18. Leak testing facility with automatic & pressure regulated air feeding (non-pressure gauge system preferable) through light source is preferable.
19. Standard set should include reusable and autoclavable biopsy forceps (1no.) Halogen Light source:

I t should be compact and lightweight around 5-6 kg or lessfor easy transportability.

Should have150 watts halogen lamp with standby lamp option.

Should have built inair pumpfor distension& automatic leakage testing.

Should be compatible with rigid and flexible endoscopes both.

Pump pressure0.3-0.6kg/cm2(at Occ./min))0.18kg/cm2or below(2000cc/min.)

20. Cleaning/maintenance kit including container for disinfectant solution
21. Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/ data sheet
22. User list to be provided with performance certificate
23. Demonstration is a must.
24. Should have local service facility
25. Comprehensive Guarantee 2 years & 5 yrs CMC INCLUDING ALL PARTS.

Q-1(77)M&E/11-

TECHNICAL SPECIFICATIONS OF FUNCTIONAL UPPER EXTREMITY THERAPY UNIT

System specifications:-

- System to execute repeatable, structured, multi level tasks with graded difficulty for upper limb functions like range of motion, speed and 3D orientation for reach, grasp, placement & release.
- Program should be designed for-
  - Improving mobility and range of motion
  - Training hand function (grasps & release)
  - Training coordinated arm & wrist movements
  - Increasing attention span
- Instrumented arm support with adjustable weight compensation and augmented feedback.
- Arm support should have five planes of motion; 2 at shoulder, one at elbow, one at wrist and one for pro/supination.
- Arm support's length of both arm and forearm should be adjustable to fit the size of the patient.
- Electric powered column for comfortable height adjustment of arm support.
- Velcro based washable cuffs for positioning of arm & forearm.
- Position sensors at shoulder, elbow axis and wrist axis to record movement at a frequency giving continuous recording on visual simulations i.e. more than 100 Hz.
- Pressure sensitive handle to measure/ detect trace amount of finger flexure (grasping) activity.
- System should include personal computer with windows compatible operating system with graphic accelerator, a 24' inches colour display & 320 GB hard drive.
- System platform should be compatible with commonly used wheelchairs.
- System should be mounted on a trolley for easy transfer

Database specifications:-

- User database should allow managing individual therapy schedules with preset programmes and options for manual override.
- User database to store patient settings, therapy schedule and activity logs with automatic documentation of patient progress.
- The treatment programme and detailed report should be exportable to other general software like PDF, power point etc.
- Database storage capacity should be unlimited based on hard drive capacity with ports for copying/ transferring data (CD-ROM and USB port).

Maintenance & General specifications:-

- Web access portal for auto up gradation of installed software.
- The system should comply with IEC 60601-1 standards and have CE market clearance.
- Power input according to Indian standard supply (220-230Volts; 50Hz) along with inbuilt/ additional stabilising/ spike protection system.
- Machine should be capable of operating and storage at 0-50^0 C and relative humidity of 15-90%.
- UPS of suitable rating to provide 60 min. of back up.
- Manufacturer should have ISO certification.
- Software upgrades and recovery tools will be part of standard.
- Warranty of **2 yrs**. with repeatable Annual Maintenance Contract.
- Provide printed brochure along with CD-ROM (manual in English) with departmental demonstration with demonstration CD.
- All software should be provided in CD-ROM applicable to installation of system & database storage.
- Certifications of system calibration and inspection.
- There should be at least 1 working installation of the system in a reputed Govt. or private hospital in India with satisfactory performance certificate.

Q-1(78)M&E/11-

Technical specification

Microwave diathermy unit cum computerized traction unit.

Microwave unit and couch

Unit must produce output of 2450 MHz

Pulse peak 1500w

Should be able to move under the couch

Power supply 230V/50Hz

Therapy time 0-30 min.

Pre programmed protocol 10-20

Couch with padded top with partition

Motorized height adjustable unit with lock in wheels for easy portability

Couch dimension of at least 6.25 feet long, 2.5 feet width ,2 feet height at least *height and* 3.5 feet at maximum height

Couch should have provision for attachment of diathermy (sliding under bed) and traction unit

Traction unit

Computerized programmable, able to provide static, intermittent, pulsating and combination forces in lumbar and cervical traction

Pre-program 10-20(separate for every joint)

Traction corset for lower back, cervical, and other necessary accessories.

Maximum lumbar force up to 60 kg

Maximum cervical force up to 20 kg

Safety switch.

Q-1(79)M&E/11-

QUANTITATIVE PCR WITH REFRIGERATED CENTRIFUGE (LIGHT WEIGHT)

SPECIFICATION:

1. Quantitative PCR with block of 96 x 0.2 ml tubes or plate to run typical 0.2ml tubes, strips, and plates.
2. The base thermal cycler should be able to be used for standard PCR
3. Gradient capacity in Real-time
4. Detection of 4 or more different fluorescent reporters in the same tube.
5. Should be capable of Detecting Cy5, FAM/Sybr Green, VIC/JOE, TAMRA/Cy3, Texas Red, Quasar705
6. Maximum Ramping speed : 5 ^{O}C per sec
7. Peltier Cooling & Heating for uniform temp control.
8. Should have one channel dedicated for FRET experiments
9. Excitation –Emission range: 450- 730nm
10. No internal reference dye should be required. True 5 Color Multiplexing with use of 5 different flourophores without the need of addition of any internal reference dye,

11. LED excitation source with Photodiode detector

12. Dynamic range of 10 orders.

13. Open system capable of running various chemistries so that Different chemistries using TaqMan, Molecular Beacon, SYBR green etc all can be performed.

14. Temperature range 0– 100 ^{O}C with accuracy of ±0.2 ^{O}C and uniformity of ±0.4 ^{O}C within 10 sec of arrival at 90 ^{O}C

15. Minimum sample vol : 10µl

16. Should have multiple scan modes with a FAST scan option for reading all wells in 3 seconds

17. Software should be capable to perform applications like allelic discrimination, end point analysis upto 5 flourophores, melt curve analysis, thermal shift assays & Gene expression analysis by relative quantity (ΔCt) or normalized expression (ΔΔCt).

18. Comparison of upto 5000 Ct values from different data files should be possible

19. The amplification traces should be viewed on the LCD screen in real time while a run is in progress with touch screen facility.

20. Software should have express load feature which allows entry of data after experiment.

21. Should be licensed for Research & IVD applications.

22. Should have an option of Primer and Probe design software.

23. System should provide the option of software which is RDML compliant.

24. Software should be capable to import and analyze data from any real time PCR platform.

25. Set of extra reagents should be provided for atleast 200 reactions for standardization of the machine.

26. Should come with suitable laptop computer and 2KVA online UPS.

27. System should include a light weight refrigerated centrifuge with below specifications:

    a. Dimensions: 14 X 10 X 9" approx.
    b. Maximum G force should be 17,000 with maximum speed of 13,300 RPM.
    c. Should have a time range in between 1 min. – 99 minutes with 1 minute increment.
    d. Temperature range: Set from -9^0 C to $+40^0$ C per 1^0 C increments.
    e. System should include dual row rotor 18 X 2.0ml/0.5 ml with screw on the lid.
    f. Should have the option of PCR 8 X 8 rotors with screw on lid.

28. Should work on normal electrical points.

29. Warranty: two years.

30. AMC – 5 years.

Q-1(80)M&E/11-

Tender cancel

Q-1(81)M&E/11-

Specifications For Mutation Detection System (Imported):

1. Description of Function -

1.1 The machine should be capable of detecting mutation in the gene.

2. Operational Requirement -

2.1 Use for different mutation detection techniques based on gel electrophoreses.

3. Technical Specifications -

3.1 Should consist of an electrophoresis module with a temperature control module.

3.2 Should include a buffer recirculating pump and other accessories for casting specific.

3.3 Should have an option of analysis software.

3.4 Should be modular in design and is capable of performing any vertical gel based-mutation detection method such as CDGE, TTGE & SSCP by adding a technique specific kit.

3.5 System should include model 475 Gradient delivery system which allows reliable and simplified gel casting by creating linear gradient gels.

3.6 Gradient delivery system should be capable of mixing and delivering high and low density solutions without using a peristaltic pump or magnetic stirrer.

3.7 Systems should have temperature control options that vary from 5-7º C to meet the demands of all major detection techniques like SSCP & DGGE.

3.8 System should include software which is recommended for all DGGE, CDGE, & TTGE applications and can optimize primer placement and predict the melting profile of any DNA sequence upto 3200 bases.

3.9 System should offer specialized technique specific kits that includes optimized reagents and control reagents for DGGE, CDGE, and TTGE & SSCP.

3.10 System should include all the accessories such as Model 475 gradient former, standard & cooling tanks, sandwich clamps, pressure clamp, comb gasket, holder, and control reagents etc. to perform different techniques.

3.11 Should include DGGE control reagents like GC clamped primers and DNA templates for production of wild type & mutant DNA.

3.12 Should require low volume (approx 7L) of running buffer.

3.13 Should have the option of power supply of 20-5000V, 0.01-500 mA and 1-400 W with auto restart and timer of 1-99 hrs, 59 minutes.

4. System Configuration, Accessories Spare and Consumables –

4.1 Reagent kit for 100 tests to perform SSCP and DGGE to make it functional and operational.

5. Environmental Factors -

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 – 50 deg C and relative humidity of 15 – 90%.
5.2 The unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%.

6. Power Supply –

6.1 Power input to be 220 – 240 VAC fitted with Indian plugs.

6.2 Temp. Probe should be supplied with power supply to monitor temperature between 30 – 37 ˚C.

6.3 UPS with power backup of atleast 1 hours to run the system.

7. Standards, Safety and Training.

7.1 Manufacturer/ supplier should have ISO certification for quality standards.

8. Documentation

8.1 User/technical/ maintenance manuals to be supplied in English.
8.2 List of important spare parts and accessories with their part number and costing.
8.3 Warranty – 2 Years
8.4 Post Warranty AMC – 5 Years.

Q-1(82)M&E/11-

Specification Pulse Field Gel Electrophoresis System (Imported)

1. Description of Function

1.1 The pulse field gel electrophoresis system is a system used to separate the substances like nucleic acid.

2. Operational Requirements

2.1 Systems should be capable of providing clamped homogenous electric field.

3. Technical Specifications

3.1 Should effectively resolve DNA fragments in the range of 100bp-10Mb.
3.2 Optimal separation range should be between 100bp-10Mb.
3.3 System should offer clamped homogenous electric field for efficient separation.
3.4 Should come with 24 programmable autonomously controlled electrodes.
3.5 Should have the flexibility to choose reorientation angle between 90-120º.
3.6 Should have battery backed up RAM.
3.7 Should have 3 programming blocks of run conditions with automatic execution.
3.8 Should be able to remember the last run conditions and resume the electrophoresis run where it left off, if interrupted by power failure.
3.9 Should be able to sense parameters like change in buffer conductivity, buffer type, gel thickness & pH
3.10 Switching Range: 0.1 sec to 65 K sec.
3.11 Maximum Run Time: 999 hours per block
3.12 Should be able to run gel sizes of approx 14 x 13 cm.
3.13 Consumables for 200 runs to make the equipment functional.

4. System Configuration Accessories, Spares and Consumables

4.1 Consumable for 200 run to make the equipment functional.

5. Environment Factors

5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 – 60 deg C and relative humidity of 15 – 90%.

5.2 Thu unit shall be capable of operating in ambient temperature of 10-32 deg C and relative humidity of less than 70%.

6. Power Supply

6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug.

6.2 Atleast on line 5KVA UPS to keep the machine running.

7. Standards, Safety and Training

7.1 Manufacturer/ supplier should have ISO certification for quality standards.

8. Documentation (must provided)

8.1 User/technical/ maintenance manuals to be supplied in English.

8.2 List of important spare parts and accessories with their part number and costing.

8.3 Warranty – 2 Years

8.4 Post Warranty AMC – 5 Years

Q-1(83)M&E/11-

SPECIFICATION OF NANO SPECTRO BIOPHOTOMETER. (IMPORTED)

7. Description of Function

7.1 The Nano drop spectrophotometer should be able to analyze the sample as small as 0.5 µL and cuvette capability in a single instrument.

8. Operational Requirements.

8.1 System should combine micro volume Pedestal technology and cuvette capability in a single instrument.

9. Technical Specifications.

a. Specifications for Nano drop

9.1 **Instrument type** – spectrophotometer to analyze the sample as small as 0.5 µL along with cuvette facility in single instrument.
9.2 **Minimum Sample Size** - 0.5 microliter
9.3 **Path length –** 1 mm (auto-ranging to 0.05mm)
9.4 **Light source** – xenon flash lamp
9.5 **Detector Type** – 2048-element linear silicon CCD array.
9.6 **Wavelength Range** – 190 – 840 nm.
9.7 **Wavelength Accuracy** – 1 nm.
9.8 **Spectral resolution** – ≤ 1.8 nm
9.9 **Absorbance Precision** – 0.002 (1 mm path)
9.10 **Absorbance Accuracy** – 2% (at 0.76 at 257 nm)
9.11 **Absorbance Range** – 0.02- 300 (10 mm equivalent)
9.12 **Detection Limit** – 2 ng/microliter (dsDNA)
9.13 **Max. Concentration** – 15,000 ng/microliter (dsDNA)
9.14 **Measurement Time** – <5 seconds
9.15 **Footprint** – 14 x 20 cm.

9.16 **Weight** – 2.0 – 3.0 Kg.
9.17 **Sample pedestal material of construction** – 303 stainless steel and quartz fiber.
9.18 **Operating voltage** – 12 vdc.
9.19 **Operating power consumption** – 12 – 18 W (max 30 W).
9.20 **Standby power consumption** – 5 W.
9.21 **Software compatibility** – windows ®XP and Vista™ (32 bit).
9.22 **Software** – as mentioned in specifications branded PC with latest configuration along with UPS with 1 hour back up with printer to be compatible for smooth functioning of machine along with MS Excel and suitable spread sheet program for manipulating data.

b. Specifications for Nano drop cuvette-

9.23 **Beam Height** – 8.5 mm.
9.24 **Heating –** 37 ± 0.5 ˚ C
9.25 **Stirrer –** 150 – 850 rpm.
9.26 **Path Length –** 10,5,2,1 mm.
9.27 **Absorbance Range –** 0.002 – 1.5 A.
9.28 **Detection Limit –** 0.4 ng/µl
9.29 **Maximum Concentration – 750** ng/microliter (dsDNA)
9.30 **Measurement Time -** <3 seconds.
9.31 **Weight –** 2.1 kg.
9.32 **Variable size of Cuvette –** 50 µl – 3 ml. one set of both glass and quartz Cuvettes.

10. System Configuration Accessories, Spares and Consumables.

4.1 Auto pipettes 2 in number 5- 10 micro liters capacity along with a packet of tips.

10.1 A pair of extra Cuvette (50µl of quartz).

11. Environment Factors.

11.1 The unit shall be capable of being stored continuously in ambient temperature of 0 – 50 deg C and relative humidity of 15 – 90%.

11.2 The unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%.

12. Power Supply

12.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug.
12.2 Suitable UPS with maintenance free batteries for minimum one- hour back-up should be supplied with the system.

7. Standards, Safety and Training.

7.1 Manufacturer/ supplier should have ISO certification for quality standards.

8. Documentation (must provided).

8.1 User/technical/ maintenance manuals to be supplied in English.
8.2 List of important spare parts and accessories with their part number and costing.
8.3 Warranty – 2 Years
8.4 Post Warranty AMC – 5 Years

Q-1(84)M&E/11-

REFRIGERATED CENTRIFUGE (TABLE TOP) LIGHT WEIGHT

SPECIFICATIONS:

1. The very compact size of micro centrifuge type: light weight, approx 12 – 14 Kg.

2. Rotors: 4 types have aerosol tight and PTEF coated rotor (24 X 1.5/2.0ml tubes, 0.5ml with adaptors), 4 X 8 tube PCR strip rotor, 18-place rotor for spin columns and also have autoclavable.

3. Have the brushless motor to provide the maintenance free drive.

4. With high max rcf of 21, 130 X g for shorter centrifugation period.

5. Noise: Whisper quiet operation even when used without rotor lid, almost soundless.

6. Have ECO shut-off function turns compressor off after eight hours idle automatically to reduce energy consumption.

7. FastTemp^{pro} allows programming of pre-cooling via date and time to make sure the centrifuge is ready for use you come to lab in the morning.

8. The technologically advanced intuitive design provides active cooling to eliminate heat build-up in the rotor chamber Dual cooling fans draw infresh air. Air flows around cooling fins of the chamber and lid carrying away excess heat from the rotor chamber and samples (heat sink design).

9. The refrigerated centrifuge offers you the temperature range: - 10^0 C to + 40^0 C. the temperature of 4^0 C is reliably maintained even at the highest speed.

10. SOFT –brake to protect delicate samples; fully adjustable end –of run-alarm (levels 1-5, mute) to reduce noise; short-spin function that can be programmed to your desired speed.

11. Should work on normal electrical points and provide UPS to give appropriate power backup for atleast 30 minutes during light failure.

12. Warranty: two years.

13. AMC – 5 years.

Q-1(85)M&E/11-

SPECIFICATIONS OF SPECTROFLORIMETER (IMPORTED)

1. Sensitivity – S/N 800 or better (RMS) using Raman band of water, S/N 250 or better (Peak to Peak), Excitation wavelength 350 nm, band pass-5 nm, response 2S.
2. Minimum sample volume - 0.6ml
3. Photometric principle - Monochromatic light monitoring ratio calculation.
4. Light Source - 150 W Xenon lamp, self- deiozonating lamp source.
5. Monochromator - Stigmatic concave diffraction grating 900 lines/mm.
6. Measuring wavelength range (on both EX and EM) - 200-275nm (expandable up to 900nm with optical detector).
7. Bandpass - Excitation side:1,2.5,5,10,20 nm Emission side :1,2.5,5,10,20 nm
8. Resolution - 1.0nm
9. Wavelength accuracy - 1nm
10. Wavelength scan speed-30,60,240,1200,2400,12000,30,000,60,000nm/min.
11. Wavelength drive speed - 60,000nm/min
12. Response - Response from 0 to 98%
13. Photometric value range- -9999 to9999

14. Data processing Unit –laptop computer: Windows XP Professional

15. Laser Printer - Laser Printer compatible with Windows XP

16. Provisional of polarization accessory for UV/VIS(Wavelength range 260-700nm)

17. Provisional of microplate accessory for automatic measurement using a 96 well microplate.
18. Incorporates flexible software features such as quantitation analysis function, wavelength scan measurement, time based measurement, data export function for excel, print previews etc.
19. Two sets of extra Cuvettes each of Quartz and glass may also be provided.
20. System should work on normal electrical points.

21. Suitable UPS with 1 hour's backup to run the machine.

22. Warranty - 2 years

23. Post warranty AMC – 5 Years

Q-1(86)M&E/11-

SPECIFICATION FOR CHEMILUMINISECENCE SYSTEM

1. **Description:** Fully automated walkaway processor for Chemiluminisecence Immunoassay (CLIA).

2. **Dimensions:** Approx. 86cm W x 51cm L x 40cm H, Weight= Approx 45 Kgs.

3. **Technology:** Enhanced pulse Chemiluminisecence Immunoassay based system and in built additional fully automated ELISA system.

4. **REAGENT AND SAMPLE DISPENSING:**

   a) **Capabilities:** Dilutions, Pre-dilutions, dispensing single or multiple reagents.
   b) **Pumps:** Two syringe pumps, sized: Approx 50ul and 2.5ml.
   c) **Probe:** 316 Stainless steel probe. Inbuilt opto sensors for collision protection, temperature controlled coil to prewarm liquid, liquid level detection and multishot dispensing.
   d) **Minimum & Maximum Volume:** 2ul to 1.95ml approx.
   e) **Maximum no. of Samples:** (Including calibrators and controls) 96 approx.
   f) **Maximum no. of reagents:** Two types of racks: One rack with atleast 27 positions and other with 44 positions. More can be programmed on the sample rack for smaller volumes.
   g) **Reaction Vessel:** Standard Reaction cells, strips or plates.
   h) **Instruments Bottles:** 2L wash with low volume warning sensor, 1L rinse (2^{nd} wash) with low volume warning sensor.

5. **INCUBATION TIMING AND TEMPERATURE CONTROL**

   a) **Incubation and timing:** Incubation of each row is timed separately.
   b) **Thermal Control:** Plate/reaction cell 25^0C, 37^0C or remains at ambient temperature.

6. WASHING

a) **Wash head:** Atleast 8-probe, automatic prime and rinse
b) **Programs:** Washing programs for wash, aspirate, dispense, and soak.

1. READER MODULE

a) **Peripheral attached Chemiluminiscence PMT unit system:** Able to measure photons by enhanced Pulse Chemiluminiscence. It should have No. crosstalk due to Exclusive Titanium Reaction Cells. Work on VAST enabled advanced CLIA test.
b) System should have facility for using streptavidin as capture with flexible tracer pack.

c) **Provisional Internal Reading Module Light Source for EIA:** Tungsten-Xenon lamp.
d) **Position filter wheel:** 405, 450, 492, 630nm.
e) **Interference Filters:** long life, hard coat, ion assisted deposition, 10nm typical half Bandpass.
f) **Linear Range:**--0.2 to 3.0A.

8. SOFTWARE

a. **Operating Systems:** windows compatible along with Std. P.C. only.
b. **Interface:** LIMS Interface.
b) **QC Options:** Storage of patient, QC and calibration data, levy-Jennings statistical analysis, Point to Point, Linear, Log regressions and log logit modes.
c) **Calibration Options:** 4 to 6 Point calibration, two point calibration and Calibration simulation.
d) **Self monitoring modes:** Lamp, bottle volumes, filter pressure, vaccum and mechanical function.
e) **Serial port:** RS232 output only, 9600baud.

9. System should work on normal electrical prints.

10. Suitable online UPS with 45 min atleast back up.

11. Should have customer support centre in India.

12. Extra supply of reagent to perform approximately 800 – 1000 for standardized and functioning of the machine.

13. It should have NRTL (Nationally Recognized Testing Lab) endorsement.

14. Warranty: 2 years.

15. AMC: 5 years.

Q-1(87)M&E/11-

Tender cancel

Q-1(88)M&E/11-

Tender cancel

Q-1(89)M&E/11-

Tender cancel

Q-1(90)M&E/11-

Tender cancel

Q-1(91)M&E/11-

Tender cancel

Q-1(92)M&E/11-

Tender cancel

Q-1(93)M&E/11-

Equipment & Description of function of Automatic Slide Stainer, Used in cytology, Histopathology Laboratory

Technical Specification of

- Fully Automatic Slide stainer with ability to run at least four different protocols simultaneously.
- At least 40 stations are desirable with 2 loading/unloading and 4 wash stations.
- One or more dewaxing /oven station with a temp. Settings from 40 to 90 deg C
- Reagent station capacity should not be more than 400m1
- Adjustable drain time with drip collection to avoid carryover of solvents.
- Inbuilt power backup.
- Four slide rack with a capacity of 30 slides each
- Memory of more than 15 program with at least 30 step each.

Power Supply

- 220-240 volts & 50 Hz
- Suitable UPS as per requirement
- 2 years warranty followed by 3 years AMC
- Training at the place of installation.

- Equipment should be complete in all aspects and functional from day one.
- Complete with tool kit and user instruction manual

Standard of Safety:

- FDA,CE,VL or BIS Certification of Product.
- All accessories to be quoted.

Q-1(94)M&E/11-

Specification of Complete Automatic Urine Analyzing System

1. Function:

1.1 Complete automatic urine analysis system for convenient operation with easy reagent and sample handling and calibration on board for quality.

2. Operational Requirement:

2.1 Latest Model

2.2 A fully automated after loading the samples with digital display and alarm system.

3. Technical Specification

3.1 It should take minimum sample volume of 1.5ml.

3.2 Through put should be >200 sample/hr.

3.3 Test parameter Sg.Gr. Ph, Leucocytes, Nitrate, Protein, Glucose,

Urobilinogen, Ketones, Bile pigments, Blood, Color, Clarity.

3.4 Appropriate mixing system like reflectomter, photometer, refractometer, turbidity.

3.5 Memory-Software appropriate, compatible with system- able to store 1000 tests.

3.6 External printer for reporting in lab.form.

3.7 Emergency sample handling through dedicated stat position.

4. System Configuration- Accessories, spares & consumable

4.1 It should be compact, space saving.

4.2 All standard accessories required.

4.3 All consumable required for installation & standardization of the equipment

5. Environmental Factors

5.1 Capable & stored in ambient temperature 0-50 deg.C & relative humidity 50-90%

5.2 Capable to working in ambient temperature 0-300C & relative humidity of 70%.

6. Power Supply.

6.1 Power Input to be 220-240VAC, 50 Hz fitted with Indian plug.

6.2 UPS as per requirement of the system.

7. Standards, Safety and Training.

7.1 Should be complied with suitable ISO/FDA/CE/VIS.

7.2 Comprehensive training for lab staff and support services till familiarity with the system.

8. Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certification of calibration and inspection.

8.3 List of important spare parts and accessories with their part number and costing.

8.4 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.

8.5 Compliance report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/ data sheet. Any point, if not substantiated with authenticated catalogue/ manual, will not be considered.

Q-1(95)M&E/11-

Equipment Specifications for Full Automatic Immuno Diagnostic System

UNSPSC Code:
ECRI Code:

1 Description of Function

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
1.1	A medical diagnostic based on the highly specific interaction between an antibody and an antigen based on Chemiluminescence.		

2 Operational Requirements

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
2.1	1. Assays for blood screening for infectious disease and for hormones, cancer markers, cardiac markers, anaemic markers. 2. Assay in continuous, random or both stat mode. 3. Facility to process various body fluids. 4. Facility for random and continuous loading of reagents and samples.		

3 Technical Specifications

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
3.1	Technical specifications 1. Floor model/ bench top with fast through put of about 90 – 100 tests per hour. 2. Should have disposable tip sample metering system. 3. Should accept various types of primary, secondary and micro cups for sampling purpose at all positions. 4. Shall have the access to all samples during operation with the better system to detect clot, bubble, viscosity, sample level and short samples. 5. Sample requirement shall be minimum of about 10 – 100ul. 6. Compact, integrated reagent pack with all components. 7. Reagents in ready to use format. 8. User friendly facility of loading and unloading of reagents during the process. 9. Inbuilt refrigeration system with controlled temperature and humidity for reagent storage. 10. Facility to do calibration of each parameter, samples and controls, multiple lot calibration and calibration curve auto transition facility. 11. Calibration stability of at least 25 days for each parameter. 12. Should have continuous process verification from sample integrity to end result. 13. Should have QC package system. 14. Should have self diagnosis and error recovery system with on board operators guide. 15. Facility to customize patient report. 16. Compatible to laboratory information system for on line computerization of patient's report and have patient data storage facilities of minimum 5000 patients report. 17. Should have facility to collect both liquid and solid waste for better disposal.		

4 System Configuration Accessories, spares and consumables

Sl	Name	Technical Specs	Bidders Deviation

		quoted by bidder	if any
4.1	All consumables required for installation and standardization of system to be given free of cost.		

5 Environmental factors

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 15-90%		
5.2	Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%		

6 Power Supply

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
	None		

7 Standards, Safety and Training

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
7.1	1. Should be FDA, CE, UL or BIS approved product. 2. Manufacturer should have ISO certification for quality standards. 3. Comprehensive training for lab staff and support services till familiarity with the system on site. 4. Comprehensive warranty for 2 years and 5 years CMC after warranty. 5. Certified to be compliant with Electrical Safety Standard for Medical Equipments- IEC- 60601-1-1 OR equivalent BIS OR international standard for electrical safety.		

8 Documentation

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
8.1	1. User/Technical/Maintenance manuals to be supplied in English. 2. Certificate of calibration and inspection. 3. List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer service/ maintenance manual. 4. List of important spare parts and accessories with their part number and costing. 5. Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of clearly spelt out. 6. Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number with authenticated catalogue/manual, without which it will not be considered.		

Q-1(96)M&E/11-

Specification of Microwave Tissue Processor

1. Description of Function:

1.1 Rapid, multi functional Microwave Tissue Processor to process Histopathology specimens up to 5mm thickness.

2. Operational Requirement:

2.1 Latest model

2.2 Microwave Tissue Processor suitable for Histopathology Laboratory for specimens of upto 5mm thick with pre-set vaccum protocol.

3. Technical Specification:

3.1 It should be able to perform 06 major applications, processing, decalcification, special stain, time and temperature, fixation, gross hardening.

4. System Configuration- Accessories, spares & consumable

4.1 System should be compact and suitable for heavy duty Histopathology sections with all spares.

4.2 All standard accessories required.

4.3 All consumable required for installation & standardization of the equipment to be given free of cost.

5. Environmental Factors

5.1 Capable & stored in ambient temperature 0-50 deg.C & relative humidity 50-90%

5.2 Capable to working in ambient temperature 0-300C & relative humidity of 70%.

6. Power Supply.

6.1 Power Input to be 220-240VAC, 50 Hz fitted with Indian plug.

6.2 UPS as per requirement of the system.

7. Standards, Safety and Training.

7.1 Should be complied with suitable ISO/FDA/CE/VIS.

7.2 Comprehensive training for lab staff and support services till familiarity with the system

8. Documentation

8.1 User/Technical/Maintenance manuals to be supplied in English.

8.2 Certification of calibration and inspection.

8.3 List of important spare parts and accessories with their part number and costing.

8.4 Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.

8.5 Compliance report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.

Q-1(97)M&E/11-

Equipment Specifications for Centrifuge Refrigerated, Table Top

UNSPSC Code: 41103904
ECRI Code: 18-265

1 Description of Function

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
1.1	The Refrigerated Centrifuge (RC) is a mechanical device used to separate biological substances of differing densities.		

2 Operational Requirements

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
2.1	Programmable microprocessor control system with self-diagnostic feature		

3 Technical Specifications

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
3.1	Maximum speed: Approx. 4,000 rpm Swing-out / 14,000 rpm Angle		
3.2	Maximum RCF: 3,000 x g Swing-out / 18,000 x g Angle		
3.3	Maximum capacity: 4 x 200 ml Swing-out / 24 x 1.5/ 2 ml Angle		
3.4	Temperature range: -10°C / + 40°C.		
3.5	Digital displays for Programme No, temperature, Speed, RCF, & Time.		
3.6	At least 10 program memories		
3.7	Timer 1 - 99 minutes and hold position		
3.8	At least 5 acceleration / 5 braking rates		
3.9	Maintenance free induction motor		
3.10	Totally CFC free refrigerant fluid and insulation		

3.11	Angle Rotor: 24 x 1.5 / 2.0ml, with adaptors for 200/500/800ul		
3.12	Angle Rotor: 30x15ml with adaptors for different sizes like 15 ml		
3.13	Swing-out Rotor: 4x200ml with sealing cap and adaptors for different sizes like 100ml, 50ml, 1.5ml		
3.14	Centrifuge must be capable of spinning at least 04 microplate with RCF of 3000gm or more.		
3.15	Centrifuge must be capable of spinning DNA/RNA filter plates up to 85mm with RCF of 4000 or more.		

4 System Configuration Accessories, spares and consumables

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
4.1	As specified		

5 Environmental factors

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any

5.1	Shall meet IEC-60601-1-2:200(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.		
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%		
5.3	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%		

6 Power Supply

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
6.1	Power input: 220-240V/ 50 Hz AC Single phase or 380-400V AC 50 Hz Three phase fitted with appropriate Indian plugs and sockets.		

7 Standards, Safety and Training

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any

7.1	Should incorporate Safety Features for Imbalance detection, lid interlock, over temperature, rotor over speed etc		
7.2	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450		
7.3	Should be FDA or CE approved product		
7.4	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.		
7.5	Should comply with IEC/TR 61010-3-020 :Safety requirements for electrical equipment for measurement, control, and laboratory use - Part 3-020: Conformity verification report for IEC 61010-2-020:1992 Particular requirements for laboratory centrifuges"		

8 Documentation

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
8.1	User manual in English		
8.2	Service manual in English		

8.3	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.		
8.4	Certificate of calibration and inspection.		
8.5	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.		
8.6	List of important spare parts and accessories with their part number and costing.		
8.7	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet. Any point, if not substantiated with authenticated catalogue/manual, will not be considered.		

Q-1(98)M&E/11-

Equipment Specifications for Inverted Microscope

UNSPSC Code:
ECRI Code:

1 Description of Function

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
1.1	An inverted microscope is a microscope with its light source and condenser on the top above the stage pointing down, and the objectives and turret are below the stage pointing up.		

2 Operational Requirements

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
2.1	For analysis of cell tissue culture and CPE in culture vessels, micro test and microtitration plates using bright field and phase contract with transmitted light		

3 Technical Specifications

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
3.1	A 4x, A Ph 10x (phase contrast) and SPL pH Ox (phase contrast) with large working distance.		
3.2	Objectives for bright field and phase contrast with 40xmagnification.		
3.3	Height adjustable 30W high light density halogen lamps		
3.4	Illumination unit swivels for contrast adjustment		
3.5	Large specimen surface (max 220 mm)..		

4 System Configuration Accessories, spares and consumables

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
4.1	System as specified-		
4.2	All consumables required for installation and standardization of system to be given free of cost.		

5 Environmental factors

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%		
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%		

6 Power Supply

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		
6.2	Suaitable voltage corrector/stabilizer		
6.3	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.		

7 Standards and Safety

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
7.1	Should be FDA or CE or ISI approved product		
7.2	Three years warranty, 5 yrs comprehensive AMC should be available with service centers in close proximity.		

8 Documentation

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
8.1	User/Technical/Maintenance manuals to be supplied		
8.2	Certificate of calibration and inspection from factory.		
8.3	List of important spares and accessories with their part number and costing.		

Q-1(99)M&E/11-

Equipment Specifications for Micro Centrifuge

UNSPSC Code: 41103901
ECRI Code: 17-452

1 Description of Function

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
1.1	Microcentrifuge is a piece of equipment, generally driven by a motor, that puts an object in rotation around a fixed axis, applying force perpendicular to the axis. The centrifuge works using the sedimentation principle, where the centripetal acceleration is used to separate substances of greater and less density		

2 Operational Requirements

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
2.1	Lightweight and Compact in size		

3 Technical Specifications

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
3.1	RPM 6,000 or more		
3.2	RCF 5000xg or more		
3.3	Digital display for Time & RPM		
3.4	Noise level		
3.5	Hold at least 6 tubes of 0.2/ 0.5/ 1.0 or 2.0 ml		
3.6	Quick spin mode		

4 System Configuration Accessories, spares and consumables

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
4.1	As specified		

5 Environmental factors

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
5.1	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.		
5.2	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%		
5.3	Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%		

6 Power Supply

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		
6.2	Resettable overcurrent breaker shall be fitted for protection		
6.3	Suitable Servo controlled Stabilizer/CVT		

6.4	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.		

7 Standards, Safety and Training

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
7.1	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450		
7.2	Should be FDA , CE,UL or BIS approved product		
7.3	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.		

8 Documentation

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job		

	descriptin of the hospital technician and company service engineer should be clearly spelt out.		
8.3	Certificate of calibration and inspection.		
8.4	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.		
8.5	List of important spare parts and accessories with their part number and costing.		
8.6	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet.Any point ,if not substantiated with authenticated catalogue/manual, will not be considered.		

Q-1(100)M&E/11-

Equipment Specifications for Electrophoresis- Submarine Horizontal with compatible power pack and other accessories

UNSPSC Code: 41105305
ECRI Code: 15-138

1 Description of Function

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
1.1	Submarine Horizontal electrophoresis, which utilize an apparatus which is rectangular and utilizes polyacrylamide and agarose gels for separating DNA, RNA and proteins..		

2 Operational Requirements

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
2.1	Complete system with all accessories for running gel system for rapid electrophoresis of proteins & nucleic acids		

3 Technical Specifications

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
3.1	Complete system with all accessories for running gel system should be inject moulded without any joint		
3.2	Medium Single mould tank ,detachable replaceable electrodes for longer life of equipment. 1.0&l.5 mm thick ,15 &15 well ,casting gates gel castor ,UV. Transparent gel tray 15 X15 cm. The same system should be able to accommodate & run 15 Xl0 cm ,15 X20 cm and 15 X 25cm gel caster .		
3.3	15 X 20 well comb 8 each Fixed height drop in comb and adjustable height comb to accommodate 8-32 sample .Comb thickness should be less than or equal to 2mm.		
3.4	TwoGel caster with leak proof casting without using tapes.		
3.5	Should have low buffer volume.		
3.6	Mark of standard like ISO or equivalent.		
3.7	Two years warranty. Followed by three year CMC . Standard Acessories as per catalogue.		
3.8	Compatible DC Power supply „«Compatible microprocessor based power supply to run at least 2 units at constant voltage or current with automatic cross over		

	„«Output range programmable,10-500V, 4-500 mA in 1 mA step, 100 W maximum „«Single-unit increments in settings and read-outs for precision and reproducibility „«Easy to read digital display „«Ensure safety features for overload, sudden load change, short circuit protection etc and personal and environmental protection „«Automatic recovery after power failure		

4 System Configuration Accessories, spares and consumables

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
4.1	As specified		

5 Environmental factors

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
5.1	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.		
5.2	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%		

5.3	The unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%		

6 Power Supply

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		
6.2	Resettable overcurrent breaker shall be fitted for protection		
6.3	Suitable Servo controlled Stabilizer/CVT		
6.4	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.		

7 Standards, Safety and Training

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
7.1	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements		

7.2	Should be FDA , CE,UL or BIS approved product		
7.3	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.		
7.4	Comprehensive training for lab staff and support services till familiarity with the system.		
7.5	Complies with measurement procedures of IP/BP/USP standards.		

8 Documentation

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection.		
8.3	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		
8.4	List of important spare parts and accessories with their part number and costing.		
8.5	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.		

8.6	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet.Any point ,if not substantiated with authenticated catalogue/manual, will not be considered.		

Q-1(101)M&E/11-

Equipment Specifications for Gel Documentation System

UNSPSC Code: 41105314
ECRI Code: 18-369

1 Description of Function

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
1.1	The basic function of gel imaging (for Gel electrophoresis which is the leading technique currently used for DNA, RNA, and protein analysis.) is to record an image of a gel for analytical and archival purposes.Gel Documentation system is used for gel image-recording most commonly used device is a camera although other devices such as flat bed scanners may be used.		

2 Operational Requirements

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
2.1	The complete system is required with necessary hardware including computer , camera, softwares and		

	printer		

3 Technical Specifications

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
3.1	Camera Specifications: Full 16-bit CCD cool camera with micro lens Pixel resolution : 1344 x 1024 or better, Signal to noise ratio : not more than 50 DB Zoom lens: 10 mm -100mm, High efficiency Diopter lens Quantum efficiency approx. 40% at 425nm Multi-Channel Image Display facility		
3.2	Darkroom Specifications: Instrument should have following facilities: 1. ChemiImaging system, Built in Motorized filter wheel with touch pad control and virtual controls through software 2. UV Transilluminator with even scans, imaging area approx. 20 x 25 cm with white light imaging facility 3. Dual Epi-white, Dual Epi-UV light & Chroma Blue light illumination		
3.3	Softwares Specifications: It should be part of the equipment and should have features for Imaging acquisition, Archiving, Enhancement, Printing Security, Array, Molecular weight, pl & Rf analysis, Spot-2D Denso analysis, Colony Cell, GFP & Yeast counting, Micro titer plate analysis, Q-PCR, Ruler, Object Distance measurement, Fluorescence Microscopy Imaging, Gel scoring & Movie Mode, RFLP Finger Printing,		

	Dendrogram analysis with Data Base Capability for multiple gels etc.		
3.4	Free Lifetime Upgrades should be provided for software.		
3.5	Computer: >800MHz, P-IV processor, minimum 256 MB Ram or better Hard disk : 40 GB or more, 48-X CD-Rom Drive or better		
3.6	Printer : High throughput compatible Laser Printer		

4 System Configuration Accessories, spares and consumables

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
4.1	As specified		

5 Environmental factors

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
5.1	Shall meet IEC-60601-1-2 :200(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.		

5.2	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%		
5.3	Thu unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%		

6 Power Supply

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		
6.2	Resettable overcurrent breaker shall be fitted for protection		
6.3	Suitable Servo controlled Stabilizer/CVT		
6.4	Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.		

7 Standards, Safety and Training

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any

7.1	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450		
7.2	Should be FDA , CE,UL or BIS approved product		
7.3	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001 applicable to manufacturers and service providers that perform their own design activities.		

8 Documentation

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	List of important spares and accessories with their part number and costing.		
8.3	Certificate of Calibration and inspection from the factory		
8.4	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.		
8.5	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet.Any point ,if not substantiated with authenticated catalogue/manual, will not be considered.		

8.6	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		

Q-1(102)M&E/11-

Equipment Specifications for Fluorescent microscope

UNSPSC Code:
ECRI Code:

1 Description of Function

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
1.1	A fluorescence microscope is a light microscope used to study properties of organic or inorganic substances using the phenomena of fluorescence and phosphorescence instead of, or in addition to, reflection and absorption.		

2 Operational Requirements

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
2.1	Should be ideal for Bright field, Phase contrast, Dark field, fluorescence, Polarization with live Digital Camera & Image analysis System with two additional eye pieces.		

3 Technical Specifications

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
3.1	1.The optical system should be of color correction for infinity with antifungus property. 2. Sturdy stand with built-in power supply for 12 V 100 W Halogen Lamp with input voltage from 90-250V, 50Hz. 3. Transmitted light filters for day light, green and neutral; density filters built-in the basic stand 4. 6 position objective nose- pieces. 5. 3 position Trinocular head with 10X22 m FOV eyepieces dipole displacement (+5 to -5) upper eyes lid (pair) intra with inter papillary distance of at least 50 – 70 mm adjustable to accommodate observer height to a minimum range of 200 . 6. Adjustable focus knobs to meet individual requirements. 7. Ultra hard Ceramic stage 8. Preset button for automatic light intensity level for photomicrography 9. LED display for intensity level 10. Universal turret TYPE swing-out condenser for bright field, dark field, phase contrast studies with N.A. 0.9 - 1.25 11. Objectives: Infinity plan apochromatic 2/2.5x Infinity plan apochromatic 4x NA 0.10WD 18.5 mm Infinity plan apochromatic Phase 10x NA 0.25 WD 10.6 mm Infinity Plan apochromatic Phase 20x NA 0.40 WD 1.2 mm Infinity plan apochromatic phase 40x NA 0.75 WD 0.51mm Infinity plan apochromatic phase 100x oil NA 1.30 WD 0.13 – 0.2 mm One extra lens according to the need 12. Epi fluorescence illumination system with 100 W Hg illuminations, filter blocks for UV, blue and green excitation. The system should have filter blocks on a turret.		

	13. Polarizer and analyzer for transmitted light. Optional accessories to be quoted separately: a)Digital Camera b)Fire wire digital camera with the following features: Recent model with 7 mega pixels CCD camera with appropriate lens system mounted. c) Image analysis: system for capture, morphometry, thresh holding (grey level profiling) and analysis, annotation, etc.		
3.2	Computer requirement: PC worstation with Core 2 Duo CPU with inkjet printer(colour),17" LCD/TFT Monitor, 120 GB HDD, DVD Read/Write, 1GB RAM.4 USB Port, Key board.		

4 System Configuration Accessories, spares and consumables

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
4.1	All consumables required for installation and standardization of system to be given free of cost.		
4.2	Accessories : 1. One additional mercury halogen lamp. 2. 5 Halogen Lamps		

5 Environmental factors

Sl	Name	Technical Specs quoted by	Bidders Deviation

		bidder	if any
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 15-90%		
5.2	The unit shall be capable of operating in ambient temperature of 20-30 deg C and relative humidity of less than 70%		

6 Power Supply

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
6.1	1.Power input to be 220-240VAC, 50Hz fitted with Indian plug 2.UPS of suitable rating with voltasge regulation and spike protection for 60 minutes back up		

7 Standards, Safety and Training

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
7.1	1. Should be FDA,CE,UL or BIS approved product. 2. Manufacturer should have ISO certification for quality standards. 3. Comprehensive training for lab staff and support services till familiarity with lthe system on site.		

	4. Comprehensive wqarranty for 2 years and 5 years CMC after warranty. 5. Certified to be copliant with Electrical Safety Standard for Medical Equipments- IEC- 60601-1-1 OR equivalent BIS OR international standard for electrical safety.		

8 Documentation

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
8.1	1. User/Technical/Maintenance manuals to be supplied in English. 2. Certificate of calibration and inspection. 3. List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer service/ maintenance manual. 4. List of important spare parts and accessories with their part number and costing. 5. Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of clerarlyt spelt out. 6. Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number with authenticated catalogue/manual,without which it will not be considered.		

Q-1(103)M&E/11-

Equipment Specifications for BIO SAFETY CABINET - CLASS II TYPE BI

UNSPSC Code:
ECRI Code:

1 Description of Function

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
1.1	Biosafety cabinets are used to provide primary containment in the laboratory when the investigator is using potentially infectious materials.		

2 Operational Requirements

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
2.1	Protection for operator, environment and the product, from aerosols and microorganisms		
2.2	The basic equipment shall consist of exhaust HEPA filter, 'Supply HEPA filter, HEPA filter for supply air, negative pressure exhaust plenum, front opening sash with either counter weight of motorized movement, suitable blower assembly, necessary lighting, indicators and controls for the cabinet. The equipment should be mounted on a stand with leveling feet. The exhaust plenum should be under negative pressure, hard ducted to the outside		
2.3	Equipment will be used to Transfer microorganisms to media containers.		

3 Technical Specifications

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
3.1	Type: BIOSAFETY CABINET, CLASS II BI (As per NSF guidelines)		
3.2	HEPA FILTER : Face dimensions: 4ft (L) X 2ft (W) X 6 ft The HEPA filter should have rated efficiency of 99.97% (or better) at 0.3 microns to provide product protection of Class 100 or exceeding Class 100 requirements of Federal Standards 209E or equivalent ISO within the work. Area.		
3.3	Air Velocity: Should not be more than 100 fpm over the work area.		
3.4	Light Intensity : 800 lux or more over the entire work surface.		
3.5	Noise level : < 70 dBA.		
3.6	UV germicidal lamp intensity : > 40 microwatt/sq.cm over the entire work surface.		
3.7	Construction : Main body, side and rear panel: Electro -galvanized Steel or Mild Steel, oven baked epoxy powder coated finish. Worktable (surface):SS304 or SS316.		
3.8	Front panels construction: Removable transparent scratch resistant sheet of approximately 6 mm thickness.		
3.9	Switches and indicators:Individual switches and indicators lamps for blower motor, florescent lamp and UV lamp.		
3.10	Differential pressure gauge MAGNEHELIC@ (scale display in cms of water)		
3.11	Other fittings required for Attaching auxiliary services : Electrical outlet socket (5 ampere rating) qty: 2 nos		
3.12	Pre Filters: Filtration efficiency of 98% for all types of particle sizes 8 micron and larger.		

4 System Configuration Accessories, spares and consumables

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
4.1	System as specified-		
4.2	Spare HEPA Filters and PRE Filters- 2 SETS EA.		
4.3	3 crore lead of 2 meter along with one 3 pins 15 amp. Plug -01		

5 Environmental factors

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
5.1	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.or should comply with 89/366/EEC; EMC-directive.		
5.2	The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%		
5.3	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%		

6 Power Supply

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug		
6.2	Resettable overcurrent breaker shall be fitted for protection		

6.3	Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)		

7 Standards, Safety and Training

Sl	Name	Technical Specs quoted by bidder	Bidders Deviation if any
7.1	Should be FDA , CE,UL or BIS approved product		
7.2	Manufacturer/Supplier should have ISO certification for quality standards.		
7.3	Should be compliant with IEC 61010-1:(or any international equivalent eg EN/UL 61010) covering safety requirements for electrical equipment for measurement control and laboratory use		
7.4	The Laminar Airflow Cabinet should be tested and comply with the requirements: 1.Downflow Velocity Profile 2.Inflow Velocity Test 3.Airflow Smoke Pattern Test 4.HEPA Filter Leakage Test 5.Electrical Leakage Ground Circuit Resistance and polarity Test 6.Lighting Intensity Test 7.Vibration Test. 8.Noise Level Test 9.UV Lamp Intensity Test 10The differential pressure gauge should be calibrated. Note:All the above Tests will have to be conducted and certified by an accredited agency. Please provide the name and address of the firm agency that will test and certify the LAF. Also necessary proof of accreditation with the appropriate national or international laboratory should be provided.		

8 Documentation

Sl	Name	Technical Specs quoted	Bidders Deviation

		by bidder	if any
8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection.		
8.3	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.		
8.4	List of important spare parts and accessories with their part number and costing.		
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job descriptin of the hospital technician and company service engineer should be clearly spelt out.		

Q-1(104)M&E/11-

SPECIFICATIONS FOR RADIOFREQUENCY SYSTEM FOR VENOUS REFLUX DISEASE.

It should be minimally invasive system utilizing Radio Frequency ablation technology. It consists of

A. CONSOLE:

- US FDA approved for varicose veins.
- Should have temperature controlled delivery system.
- Preferably having Segmental Ablation Technology
- Power supply range 100 – 240 volts 50-60 HZ
- Should have real time temperature feed back control and also gives the power delivered.
- Tissue should be heated between range of 20 ° / 60 ° to 100° /120 ° C using thermocouple device.
- Impedance of tissue should be continuously monitored and indicated by acoustic signal.
- Should have hand switch / foot control.
- Frequency of the system (RF signal) should be 450-500 KHZ.
- Should be equipped with hospital grade detachable AC power cord at least 3 meter long.
- Trolley, with castors and lockable drawer to keep accessories.

B. ACCESSSORIES:

- Flexible Catheters of diameter approx. 5F – 7F.
- Length of catheters approx 1000 – 1200 mm.
- Electrode length should be 1.5 cms – 7.0 cms.
- Inner lumen should be compatible with 0.025 guide wire
  Introducer kits containing puncture needle and Sheath - 25 Pcs..

  Flexible Radiofrequency Catheters - 25 Pcs.

  Terms and Conditions:

- Guranttee/Warranty for Three Years and AMC for another Two Years after expiry of Guranttee/Warranty.
- Should have service centre in Delhi
- Should be able to give demonstration if required.
- Should quote rates for accessories separately
- Procuremen of accessories would be done quarterly/ as per requirement

Q-1(105)M&E/11-

SURGICAL ICU BEDS AND TUBULAR MATTRESS

- Should have four section X-Ray translucent mattress base.
- Complete mattress base should be X-ray translucent, made of high pressure laminate for x-ray & ease of cleaning / disinfection.
- Base frame & support frame should be made up of epoxy coated or Chromed for long life & prevention from rusting.
- Mattress should be fully Radiolucent for ease in performing portable X-rays.
- Should have stepless electrical adjustment for height, back section, leg section, cardiac chair position and Trendelenburg / anti Trendelenburg.
- Should have inbuilt battery backup for operation in case of power failure
- Should have manual quick release mechanism for back section adjustment during emergency situation, it should have the adjustment of back section by patient operated lever.
- Should be equipped with 125 / 150 mm. castors with central braking and steering pedals on each wheel.
- Should have gas spring assisted side rails for smooth & safe adjustment & to avoid squeezing injuries..
- Should have Max. Patient weight of 235 Kg .
- Mattress of the Bed should be made up of High quality medical grade foam with Anti Microbial agent incorporated into all components for Prohibiting growth of bacteria & fungi.
- Should have bumpers at all four corners and place for fixing accessories.
- Bed should be C.E. marked & should meet international safety standard

Should have stepless electrical adjustment for the following:

Height Range	: 375 – 850 mm. Approx.
Back section	: 0 - 70 degrees or better
Leg Section	: +- 25 degrees or better
Trendelenburg /	: -5 to +12 degrees or better
Anti Trendelenburg	
Length	: 2150 mm approx.
Width	: 900 mm Approx.
Safe Working Load	: Atleast 275 Kg

Each bed should be supplied complete with:

a)	Bed Ends, fixed to the frame	:	01 pair
b)	Foldable Side Rails	:	01 pair
c)	IV Rod	:	02 No.
d)	Mattress 120 mm Thick :	01 No.	

Anti bed score tubular mattress system:

Alternative pressure reliving system having following:

a) Alternative pressure pump having alternate pressure cycle of approximately 10 min. Pressure can be adjusted, Option of Static / Alternating.

- Should have hanger system option for fixing it to bed.
- Power cut off sound alarm facility.

Tubular mattress having mattress height of approx. 11 cm after inflation each tube

replaceable, water proof cover having CPR valve for immediate deflation during emergency

Static top tubes for comfort.

Qty: 24 Beds & 24 Tubular Mattresses

Terms and Conditions:

- Guarantee/Warranty for Three Years and AMC for another Two Years after expiry of Guarantee/Warranty.
- Should have service centre in Delhi

b) Should be able to give demonstration if required

Q-1(106)M&E/11-

INSTRUMENTS FOR LAPAROSCOPY, THORACOSCOPY, VAAFT SET

A.LAPAROSCOPIC INSTRUEMENTS:

1 .LAPAROSCOPIC HUMIDIFIER

It has sterile heated limb with dual heating element to maintain temperature and humidity all the way to the patient. The outer tubing provides insulation and aids flexibility. Tubing is connected with a standard male luer lock connector with swiveling lock for easy connection .It contains a humidifier chamber.

It has dry tubing for connection from insufflator to humidifier chamber, filter, male to male connector to connect filter to heated limb to purge air from tubing before entry to patient

2. Telescopes:

10mm - 30 degree Working Length- Approx. 310 mm.- 02 Pcs.

05mm - 0 degree Working Length- Approx. 310 mm - 01 Pc.

05mm - 30 degree Working Length- Approx. 310 mm - 01Pc

3. Clip Applicator 10mm having Right angle applicator - 01 Pc
   for Medium Large Clips
4. Clip Applicator 5mm diameter for medium clips - 02 Pcs
5. Clip Applicator for absorbable Haema Clips Medium Size 02 Pcs
6. Clip Applicator for absorbable Haema Clips Medium Large Size 02 Pcs
7. Clip Applicator for absorbable Haema Clips Large Size 02 Pcs
8. Debekay forceps 5mmwoith 40 mm. Jaws 02 Pcs
7. Microdissecting Scissor 5 mm. 02 Pcs
8. Double Grasper 5mm. 01 Pc
9. Nathanson Retractor 01 Pc
10. 10 &12 mm Trocar with Suction for Hadatid cyst 01 Each
11. US Babcock with Spring tension 10 mm 01 Pc
12. Biopsy Forceps 5mm 01 Pc

13.	Cholangiography Forceps 5 mm. Olsen Clamp	01 Pc
14.	Gall Bladder Removal Forceps with Oval Shape end	01 Pc
15.	12mm to 5mm Reducers with Silicone attachment	04 Pcs
16.	10mm to 5mm Reducers with Silicone attachment	05 Pcs.
17.	Needle Holder Coaxial Type 5mm tungsten tip Straight Handle length 33 – 36 cms.	02 Pcs.
18.	Clip Applicator 10mm having for Medium Large Clips With one blade fixed	05 Pcs
19.	Instruements for Needloscopy:	
i.	Grasping Forceps 1x2 teeth,blunt,straight coated handle with Ratchet & Ring Handle 2.7 mm x 30 cm & 2.7 mm x 16 cm	01 Pc. Each
ii.	Grasping Forceps, non traumatic ,blunt, straight, coated handle with ratchet & Rings2.7 mm x 30 cm & 2.7 mm x 16 cm	01 Pc. Each
iii.	Maryland dissector, non traumatic,blunt,Left Curved, coated handle without ratchet with rings2.7 mm x 30 cm & 2.7 mm x 16 cm	01 Pc. Each
iv.	Scissor 2 blunt,straight coated handle without Ratchet & Ring Handle 2.7 mm x 30 cm & 2.7 mm x 16 cm	01 Pc. Each
v.	Needle driver, serrated ,coated with ratchet, without rings 2.7 mm x 30 cm & 2.7 mm x 16 cm	01 Each
vi.	Stainless Steel Trocar sleeve with conical tip without Luer Lock 2.8 mm x 5 cm & 2.8 mm x 8 cm	02 Each
vii.	Stainless steel Trocar sleeve with conical tip wih Luer Lock 2.8 mm x 5 cm, 2.8 mm x 8 cm & 2.8 mm x 10 cm	02 Each

viii.	Suction Irrigation Set with sliding valve, 2.7 mm. x 30 cms		01 Pc.	
ix.	Monopolar ‘L’ Electrode 90 degree, 30 cms. Long with Handle.		02 Pcs.	
x.	Telescope 0 degree 2.7 mm. x 270 mm.			
20.	Single Portal Single Site Surgical instruments Set:			
	i.	X type cannula 25 mm with port consisting of two half cone, sealing and ports with insufflations Stopcock.		01 Pc.
	ii.	Sealing Cap set of 5		05 sets
	iii.	Grasping forceps. Coaxial shape curved down double Jaw 5 mm.length 43 cms. Should be dismentable.	01 Pc.	
	iv	Grasping forceps, fine atraumatic serration single action Jaw, sheath bending to LEROY for the left hand 5mm length 40cm should be dismentable in handle And outer tube with working insert.	01 Pc.	
	v.	Bowel Grasper rotating double action Jaw sheath Bending according to CARUS, 5mm, length 40cm. Dismentable in handle and outer tube with working Insert.		01 Pc.
	vi	Coagulating and dissecting electrode L shaped, Tepered tip with cm marking, 5mm length 43cm.	01 Pc.	
	vii	Light adopter right Angled		01 Pc.
	viii.	Grasping forceps 5 mm, dismentable in 3 part with heavy jaw, should have clean port		01 Pc.
	ix	Dissecting forceps 5 mm, dismentable in 3 parts should Should have cleaning port	01 Pc.	

x Metzanbaum Scissor 5mm, dismentable in 3 parts should have cleaning port — 01 Pc.

B. VAAFT SET

Fistulectomy Set

Consisting of:

(i)	Telescope 8 degree, angled eyepiece, O.D.3.3 x 4.7 mm, working length 18cm, With straight instrument channel for 2.5cm instruments	01 Pc
(ii)	Handle	01 Pc
(iii)	Obturator for endoscope	01 Pc.
(iv)	Coagulating Electrode 7 Fr., for Fistulectomy	03 Pcs.
(v)	Sterilization Tray	01 Pc.
(vi)	Fistula Brush consisting of 3 Ring handle and outer sheath and brush inserts 4; 4.5 & 5mm	02 Each Size
(vii)	Grasping forceps 2mm and 30cm long with connector pin for coagulation	01 Pc.
(viii)	Anal Distending Speculum with three blades outer diameter 27mm, working length 6cm with oburator	01 Pc.
(ix)	Wire Basket Tray for 460 x 150 x 80mm	01 Pc.

C. THORACOSCOPY INSTRUMENTS:

1	Rigid Thoracoscopy trocar with obturator - 5.5mm	-	02 Pcs
2.	Rigid Thoracoscopy trocar with obturator - 11mm	-	02 Pcs.
3.	Flexible Thoracoscopy trocar with obturator - 5.5mm	-	02 Pcs.
4.	Flexible Thoracoscopy trocar with obturator - 11mm	-	02 Pcs.
5.	Thoracoscopy hand instrument with 5mm diameter and curved		01 Pc. Each

(i) Maryland angled 5mm
(ii) Atraumatic grasper,5mm angled

(iii) Needleholder, 5mm

(iv) Metzenbaum angled sheath 5mm

(v) Babcock,Allis-angled 5mm

(vi) Duval,angled 10mm

Terms & Conditions:

- The firm should have service centre in Delhi
- The firm should provide the list of users especially Govt. Hospitals.
- The firm should be able to give demonstration if required.
- Guarantee/ Warranty for Two Years .

Q-1(107)M&E/11-

VITAL SIGN MONITOR WITH CENTRAL STATION

Should be able to monitor ECG, NIBP, SPO2, Respiration, Temperature (2CH), ST Segment and arrhythmia analysis and preferably Pace maker detection.

- Should have Large 15" colour TFT display with touch screen operation and should display of 6 or more waveforms.
- Should be suitable for adult.
- Should have facility for arrhythmia and ST Segment analysis.
- Should have Nellcor Technology to sense the Spo2 in hypotensive, shivering and motion conditions..
- Should have Spo2 measurement range: 0-100 % and PR range 25-250 bpm.
- Should have respiration rate measurement using impedance method
- Should use oscillometric technology for NIBP Measurement with selectable manual, automatic & continuous mode for NIBP Measurement.
- Should have 2 channel temperature monitoring
- Should have drug calculation and titration table function
- Should have atleast 100 hrs or more of trend facility for all parameters (Tabular & Graphical) and critical alarm events recall for events.
- Should have graded and colour coded audio – visual alarm for all parameters.
- Should have selectable display patterns including standard, large font and trends coexist, oxy CRG dynamic view.
- Should have facility to enter patient information in the monitor for records and management
- Should be easy to operate using a single jog dial.
- Should have inbuilt battery back up of 4 hrs. or more.
- Should be electro surgical unit & defibrillation protected.
- Should have inbuilt thermal recorder with selectable printing speeds of 25 or 50 mm / sec.
- Should have facility for wireless connectivity with central station monitor .
- Should conform to international safety standards such ISO/CE for medical equipment.
- Wiring for Power Supply should be done as per International safety norms and as per Radiation Hazard norms.

Optional:

- Monitor should be modular having Facility for up-gradation with separate modules for ETCO2, Multi Gas Monitoring and IBP(2ch) .
- Thermal recorder
- Networking Module
- Wall mounted stand for monitor

Each Monitor should be supplied complete with

ECG Lead (5 lead)	1 pc
Reusable NIBP Cuff with extension (Adult)	2 pcs each
SPO2 Sensor with extension cable (Adult)	2 pcs each

Temperature probe 1 pc

Central Station Monitor

- Should have high resolution TFT color LCD display 17” or more.
- Should provide central monitoring of at least 06 bed side monitors.
- Should be capable of configuring up to 32 beds.
- Should be capable of monitoring ECG, NIBP, SPO2, Temperature (2 channel), Heart Rate, Pulse Rate, ST segment from all 06 beds.
- Arrhythmia should be detected, labeled for operator attention, stored automatically for later review.
- Should be flexibly configured by wireless network (based on telemetry)
- Should be capable of monitoring waveform parameter information of 06 beds simultaneously and complete real time information for individual bed
- Should be capable of controlling patient information remote setting, thereby eliminates complicated operation from each bedside.
- Should be capable of realizing parameter alarming scope adjustment
- Alarm should be audio-visual-electrical signals.
- Should conform to international safety & quality standards with proper certifications such as CE & ISO
- Power Back up Facility for at least One hour Online

Quantity: 4 Sets. Each Set should have 6 Monitors and One Central Monitor

Terms and Conditions:

- Guarantee/Warranty for Three Years and AMC for another Two Years after expiry of Guarantee/Warranty.
- Should have service centre in Delhi
- Should be able to give demonstration if required.

Q-1(108)M&E/11-

HIGH DEFINITION LAPAROSCPIC SET

The system should be truly Digital HDTV endoscopic video Camera and should have consistent use of 16: 9 format for Input & Output for HDTV function. It should be

consisting of:

(1) ***High Definition Camera*** should have following features:

(i) Progressive scan Technology

(ii) CCD sensing chip should optimize image quality and maximizing hi-fidelity image transmission

(iii) Should have integrated optical zoom to enhance the image size regardless of the telescope used.

TECHNICAL SPECIFICATIONS:

Image sensor	:	3X1/3" CCD-Chip
Pixels	:	1920 x 1080
AGC	:	Microprocessor controlled
Lens	:	Integrated Parfocal Zoom Lens, f=14mm-30mm
Video output	:	Composite signal to BNC socket Y/C signal to S-VHS socket(2x). RGB signal to D-sub socket HDTV signal to DVI-D socket Digital SDI signal DV-For digital recording
Input	:	Keyboard input for character generator. 5-pole DIN Socket

(2) HIGH DEFINITION MONITOR

The monitor should have:

(i) LCD crystal Display

(ii) HDTV display in original 16:10 HDTV format

(iii) Resolution : 1920X1200 pixels.

(iv) Screen Diagonal – 23"

(v) Desk top with pedestal.

Terms & Conditions:

- The firm should have service centre in Delhi
- The firm should provide the list of users especially Govt. Hospitals.
- The firm should be able to give demonstration if required.
- Guarantee/ Warranty for five Years and AMC for another 5 years after expiry of warranty.

Q-1(109)M&E/11-

PEDIATRIC CYSTOSCOPE / RESECTOSCOPE –Technical specifications

A.Compact fiber cysto-urethroscopes

1. 4.5/6 Fr, 0 degree angle of vision---2.4 Fr working channel working length 110mm------ 1No
2. 6/7.5 Fr, 0 degree angle of vision--- 4 Fr working channel working length 140mm------ 1No
3. 8/9.8 Fr, 12 degree angle of vision-----5 Fr working channel working length 150mm------ 1No

4. Bugbee electrode—2.4 Fr---------- 2No
5. Coagulating Button electrode—5 Fr---------- 2Nos
6. High Frequency cable---------- 2No

B Cystourethroscope for children

1. Telescope 1.9 mm, 0^o Autoclavable with enlarged image & brightness size---------- 2Nos
2. Telescope 1.9 mm, 30^o Autoclavable with enlarged image & brightness size---------- 1Nos
3. Telescope 2.7 mm, 0^o Autoclavable with enlarged image & brightness size---------- 2Nos
4. Telescope 2.7 mm, 30^o Autoclavable with enlarged image & brightness size---------- 1Nos

5. Cystoscope sheaths with obturator-8.5 Fr---3 Fr capacity---------- 1Nos
6. Cystoscope sheaths with obturator-9.5 Fr---4 Fr capacity ---------- 1Nos
7. Cystoscope sheaths with obturator-12 Fr----4 Fr capacity ---------- 1Nos
8. Cystoscope sheaths with obturator-14 Fr----5Fr capacity ---------- 1Nos

9. Adoptor with one instrument port for urethroscopy----------1 Nos
10. Insert with Albarran Deflector for two instrument port----------1 Nos

11. Flexible Biopsy forceps 3 Fr----------1 Nos

12. Flexible Grasping forceps 3 Fr----------2 Nos
13. Optical biopsy forceps for use in 14 Fr sheath----------1 Nos
14. Optical Foreign body forceps for use in 14 Fr sheath----------1 Nos
15. Rigid Grasping Forceps 5 Fr for removal of stent----------2 Nos

C Resectoscope for neonates and infants

1. Resectoscope sheath 9 Fr oblique and insulated tip with obturator----------1 Nos
2. Working element---------- 1Nos
3. Adaptor with instrument port capacity 3 Fr---------- 1Nos
4. Cutting electrode----------5 Nos
5. Coagulating electrode----------2 Nos
6. Hook electrode----------5 Nos

D Resectoscope for Children

1. Resectoscope sheath 11.5 Fr oblique and insulated tip with obturator----------1 Nos
2. Working element---------- 1Nos
3. Adaptor with instrument port capacity 3 Fr---------- 1Nos
4. Cutting electrode----------5 Nos
5. Coagulating electrode----------2 Nos
6. Hook electrode----------5 Nos

E.Fiber optic light cable 1.6 mm dia 180 mm---------- 1Nos

F.Light Source 180 W Xenon, Power Supply: 100-240 v.a.c, 50/60 hz. -- ---------- 1Nos

NOTE

1. The supplied instruments should have warranty period of 3 years

2. Annual Maintenance Contract facility to be provided after completion of warranty period of 3 years

3. Supplier company will have to give training to doctors and staff of Operation Theatre , regarding the handling and maintenance of the instrument.

4. Supplier should have local service station to provide immediate repairs of any Break down of the instruments and to provide the spare parts and disposables articles, as and when required by the users of supplied instruments.

5. The instrument should not be refurbished one and it should be fresh supply from original manufacturer of the instruments

6. All the above instruments and equipments must be having relevant CE certification as well as IEC certification., applicable to medical instruments and

7. All eligible companies should be OEM and should have ISO 9001 certification or en 46001 certification. Additionally instruments should have been tested in accordance with IEC 601-1 international. Apart from this, companies having their own service centers in India will be highly preferred.

Q-1(110)M&E/11-

S.No	Specifications for Bubble CPAP system
1.	<u>Specification for Humidifier:</u> a) Should be servo controlled Humidifier vase with digital temperature display b) Should have the connections for heater wire adaptor and flow, temperature sensor adaptors c) Should have invasive and Non invasive modes d) Should display the temperature of chamber and patient end e) Should have audio Visual alarm system for conditions like high & low temperature, humidity & disconnections.
2.	Should have auto feed humidifier chamber with dual float valve mechanism for constant compressible volume to maintain CPAP pressure
3.	Should have Heated Breathing Circuit with spiral heater wire technology to provide proper humidification.
4.	Should have CPAP generator with auto level mechanism and CPAP adjusstable from 3 to 10 cm H_2O
5.	Should hsve safety provision for maximum pressure limiting in case of occlusions
6.	Should have the ports for pressufr monitoring & delivery FiO2 monitoring
7.	Should have none invasive interface which should include: a) Tubing to hold the nasal prongs and should support variuos caring positions like prone, supine lateral. b) Nasal prongs of silicon in various sizes bassed on nares diameter & width of septum. c) Infant Bonnets / Caps of different sizes based on head circumference of the patient to fiit on head and to hold nasal tubing & prongs. Caps should have provision of opening for differn procedures.
8.	Should have the provision to deliver gas with selectable FiO2 (21% - 100%)
9.	Unit should be suppleid with Mobile pole with castors, mounting bracket & IV hock
10.	Unit should be suppleid with proper demostration, user manual & set up guides
11.	Unit should be complaint with International safety regurations & certifications.
12.	2 year warranty & then 5yr CMC and the status of equipment should be made functional within 48 hours of reporting

Q-1(111)M&E/11-

Generic Specifications for Equipments at different health facilities

1. / Open care system on trolley with drawers, with radiant warmer, O2-provision

Technical Specifications:

Mobile newborn resuscitation table with fixed-height radiant warmer
Antistatic castors, 2 with breaks
Table surface with mattress with infant head/shoulder support
Mattress-padding: foam density approx. 21 - 25 kg /m³
Mattress cover: removable with zipper, waterproof, washable, resistant to cleaning with chlorine based solution and flame retardant
Side boards transparent acryl, drop down and lockable
Under table 2 storage drawers
Side rails allow for mounting of accessories
Hood suspended above the table integrates heating element and overhead light
Overhead light: 2 x 50W halogen spot, with dimming function
Integrated support for two 10 L oxygen bottles
Control unit has flow meter and displays pressure
Heating element: emitter with parabolic reflector and protected by metal grid
Control unit allows air and skin temperature preset (LED indicator) and drives radiant heater output (servo and manual)
Integrated timer: 1 to 59 min, with count-up and count-down feature
Temperature range, skin: 34 to 38°C (user pre-settable)
Monitoring of skin temperature by means of sensor, range: 30 to 42°C
Heater output: 0 to 100 % in increments of 5 %
Control unit: audiovisual alarms according to timer and temperature presets avoiding overheating
Display reports systems errors, sensor failure
Power requirement: 220 V / 50 Hz
Power consumption: 800 W
Device is produced by ISO 9001 certified manufacturer (Certificate to be submitted, further details see "Technical Provisions")
Device is safety certified according CE 93/42, FDA 510k or equivalent (Certificate to be submitted, further details see "Technical Provisions")

Supplied with:

1 x mattress
1 x skin temperature probe (including connection cable)
1 x spare skin temperature probe (including connection cable)
1 x spare heating element
2 x empty 10 L oxygen cylinders
1 x spare set of fuses
User manual with trouble shooting guidance, in English
Technical manual with maintenance and first line technical intervention instructions, in English
List of priced accessories

Generic Specifications for Equipments at different health facilities

1. / Open care system on trolley with drawers, with radiant warmer, O2-provision

Technical Specifications:

Mobile newborn resuscitation table with fixed-height radiant warmer
Antistatic castors, 2 with breaks
Table surface with mattress with infant head/shoulder support
Mattress-padding: foam density approx. 21 - 25 kg /m³
Mattress cover: removable with zipper, waterproof, washable, resistant to cleaning with chlorine based solution and flame retardant
Side boards transparent acryl, drop down and lockable
Under table 2 storage drawers
Side rails allow for mounting of accessories
Hood suspended above the table integrates heating element and overhead light
Overhead light: 2 x 50W halogen spot, with dimming function
Integrated support for two 10 L oxygen bottles
Control unit has flow meter and displays pressure
Heating element: emitter with parabolic reflector and protected by metal grid
Control unit allows air and skin temperature preset (LED indicator) and drives radiant heater output (servo and manual)
Integrated timer: 1 to 59 min, with count-up and count-down feature
Temperature range, skin: 34 to 38°C (user pre-settable)
Monitoring of skin temperature by means of sensor, range: 30 to 42°C
Heater output: 0 to 100 % in increments of 5 %
Control unit: audiovisual alarms according to timer and temperature presets avoiding overheating
Display reports systems errors, sensor failure
Power requirement: 220 V / 50 Hz
Power consumption: 800 W
Device is produced by ISO 9001 certified manufacturer (Certificate to be submitted, further details see “Technical Provisions”)
Device is safety certified according CE 93/42, FDA 510k or equivalent (Certificate to be submitted, further details see “Technical Provisions”)

Supplied with:

1 x mattress
1 x skin temperature probe (including connection cable)
1 x spare skin temperature probe (including connection cable)
1 x spare heating element
2 x empty 10 L oxygen cylinders
1 x spare set of fuses
User manual with trouble shooting guidance, in English
Technical manual with maintenance and first line technical intervention instructions, in English
List of priced accessories

Q-1(112)M&E/11-

SPECIFICATION FOR HIE TREATMENT UNIT

- Should be suitable for treatment of Hypoxic Ischemic Encephalopathy in Term infants.
- Should provide selective head cooling while maintaining core temperature at safe levels of 34 to 35 deg C through radiant warmer.
- Should be easy to use with touch screen interface.
- Should have built in protocol with instructions to help user through treatment.
- Should automatically determine initial cap cooling temperature by entering body height & gestation period.
- Should achieve a rectal temperature of 34 to 35 deg C by adjusting cap temperature.
- Cap temperature should be adjustable is steps of 0.1 deg C.
- Should continuously monitor & display cap temperature & rate of increase or decrease of infant rectal temperature / hour.
- Should have facility to continuously monitor & display infant temperature from 5 different body sites viz – Rectum, Scalp, Skin, Esophagus, Nasopharynx.
- Should continuously display temperature graphs for current 10 hrs and for full treatment & re-warming time of 76 hours.
- Should highlight the target temperature zone on temperature graphs for quick identification by nursing staff.
- Should allow entering clinical notes & data during cooling treatment also for records & review.
- Should have facility to pause the cooling function to facilitate scalp checks and medical intervention during treatment.
- Should have facility of emergency shut down.
- Should be US FDA approved for treatment of Hypoxic Ischemic Encephalopathy.
- Should have two level audio & visual priority alarm and on screen display of error codes / conditions for easy trouble shooting.
- Should have Keyboard, Mouse, CD, USB & Networking port for easy trouble shooting & future upgradation.
- Should be mounted on castors for easy transportation.
- Should conform to international quality & safety standard such as IEC 60601-1-1, IEC 60601-1-2, EU, MDD, CLASS-II, etc.
- Should be supplied with single channel Cerebral Function Monitor with inbuilt thermal printer, storage facility for 20000 hours and data transfer facility.
- Should be supplied complete with Coolcap set 5 nos, consisting of Water Cap, Cap retainer to hold water cap & insulating cap to reflect away the heat.
- 2 year warranty followed by comprehensive maintainence cover(CMC) for 5 year.
- The equipment should be functional within 48 hours of reporting.

Q-1(113)M&E/11-

SPECIFICATION FOR PAEDIATRIC I.C.U. BEDS

- Should have simple design, light weight & sturdy construction.
- Should have three sectional base
- Should have stepless hydraulic adjustment for height and back section.
- Range of height adj. should be 420 mm to 800 mm
- Should have dual control for back section adjustment by nursing staff as well as patient operated lever.
- Range of back section adj. should be down -5 deg and up + 65 deg or better
- Should have stepless pneumatic adjustment for trendelenburg 25 ^{0} (or better) and Reverse trendelenburg 14 ^{0}(or better) using gas spring.
- Should have pneumatic stepless leg section adj. 45 deg using gas spring.
- Bed ends should be easily detachable and re-attachable along the entire length of the bed
- Should have place to fix IV rod to all four corners of the bed
- Should have castors dia 125 mm, with central braking system with an easy to reach foot operated control lever.
- Bed should be C.E. marked & manufactured as per ISO 9001 Quality Standards.

Dimensions

Length 1700-1750mm

Width 800-850 mm

Each should be supplied complete with

Bed ends	01 pair
Collapsible side rails	01 pair
IV rods height adj. with quick release locking	01 pc
Mattress 10 cm thick (or better)	01 pc

.

Q-1(114)M&E/11-

SPECIFICATIONS FOR

RADIOLUCENT SPINAL EXTENSION FOR OT TABLE

Seeking a radiolucent spinal attachment for use with OT table . The system should meet the following specifications:

1. The table top should be radiolucent with atleast 3 inch thick mattress/foam pad.
2. The attachment should be able to attach to all of the existing operating tables
3. The system should be easily portable and able to move from one OT to another.
4. The system must have height adjustable from head end to achieve multiple positions.
5. The system should not have any member near the floor between the table and head end enabling unlimited and free access for C-arm.
6. The system should have adjustable wings to fit a variety of patients and to obtain decompressed abdomen for various kinds of surgical interventions in prone and lateral position.
7. Patient positioning should be possible in prone and in skull clamp (eg. Mayfield)using radiolucent attachment and the skull clamp adjustment should be easily possible in versatile manner
8. Arm supports for patient in supine position as well as lateral position ((one pair each).
9. Lateral supports (one pair) and security straps (2 pieces) for patient in lateral position.
10. One complete ly radiolucent head clamp system compatible with the spinal attachment should be supplied.
11. All manuals should be supplied in English

Q-1(115)M&E/11-

TRANSPHENIODAL INSTRUMENTS

S **S. No**		**Description**	**QTY.**		
1.		Cottle dissector [200mm long]	1pcs		
2.		Masing dissector [200mm long]	1pcs.		
3.		Davis dissector [245mm long]	1pcs		
4.		Scalpel handle, bayonet-shaped [210mm long]	2pcs		
5.		Killian septum specula screw joint [140 mm long] Specula sizes: 56 x 7 mm, 75 x 7 mm, 90 x 7 mm	3pcs		
6.		Killian-Claus septum gouge with notch, bayonet-shaped [170mm long] Gouge widths : 4mm & 6mm	2pcs		
7.		Bayonet chisel [200mm long] Chisel widths: 4mm, 6mm, 8mm	3pcs		
8.		Cottle osteotome [180mm long] Osteotome widths: 4 mm,7 mm, 9 mm	3pcs		
10.		Cushing-Landolt specula for transsphenoidal hypophysectomy Working sizes: 70x15mm, 90x15mm, 110x15mm	3pcs		
11.		Landolt, spreader for transsphenoidal specula [210mm long]	1pcs		
12.		Mackey modified Weil-Blakesley ethmoidal forceps, upward [114 mm long]	1pcs		
13.		Yasargil, sharp pituitary rongeur, [190 mm long] ø 2mm	1pcs		
14.		Yasargil, sharp pituitary rongeur, [185 mm long] ø 3mm	1pcs		
15.		Landolt tumor grasping forceps, blunt [200mm long] ø 9mm	1 pcs		
16.		Fahlbusch, micro scissors with tubular shaft, extra delicate pattern, [187 mm long] Cutting directions: 1. Curved on flat; 2.Straight; 3. Curved left; 4. Curved right; 5. Horizontal	5 pcs		
17.		Hardy curette, bayonet. [Working distance - 120mm], [Total length: 241mm] Types 1. angled up, tip width: 3mm 2. angled up, tip width: 5mm 3. angled down, tip width: 3mm 4. angled down, tip width: 5mm			

		5. curved left, tip width: 5mm 6. curved right, tip width: 5mm 7. 45 degree right, tip width: 3mm 8. 45 degree right, tip width: 5mm 9. 45 angled left,tip width:3mm 10. 45 angled left,tip width:5mm 11. 90 degree left, tip width: 3mm 12. 90 angled right,tip width:3mm 13. 90 angled right,tip width:5mm			
18.		Nicola raspatory, 215mm, bayonet, 8 1/4".			
19.		Landolt curette, malleable, bayonet 260mm, 10 3/4".			
20.		Landolt blunt hook, malleable, bayonet, 260mm, 10 3/4".			
21.		Landolt forceps angular, bayonet, 215 mm, 8 ½"			
22.		Trans sphenoidal SL Steel Micro suction tips with non-glare finish[Length: 9 1/2"] Diff. Sizes: 1.5 mm to 5 mm. (set of eight.)			
23.		KEM suction in complete stainless steel Tapered with keyhole Sizes: 2.0mm, 3.0mm, 4.0mm, 5.0mm			
24.		Kerrison rongeurs (with hardy style handle with ball spring) bite size: 1mm, 2mm, 3mm, 4mm angle: 40º up shaft length: 9"(225mm)			
25.		Pituitary micro instruments container for sterilisation size approx: 280x180x56mm			

- The supplier should provide a two year warranty on the products supplied

To avoid break in patient care, in event of breakdown of any instrument, the supplier should provide an

Q-1(116)M&E/11-

MICRONEUROSURGICAL INSTRUMENTS SET

S. No.	Description	QTY.		
1.	Angled Micro suction tips (Non-glare finish) in S.S. [Lenght 6"] Set of eight pieces with each having diff. tip size: 1.5 mm to 5 mm	2sets= 16 pcs		
2.	Angled Micro suction tips (Non-glare finish) in S.S. [Lenght 7"] Set of eight pieces with each having diff. tip size: 1.5 mm to 5 mm	2set= 16 pcs		
3.	Angled Micro suction tips (Non-glare finish) in S.S. [Lenght 9.5"] Set of eight pieces with each having diff. tip size: 1.5 mm to 5 mm	2set= 16 pcs		
4.	PENFIELD DISSECTORS, SET OF FIVE (1) PENFIELD, Dissector, double-ended, 175 mm, 7" (2) PENFIELD, Dissector, double-ended, 195 mm, 7 3/4" (3) PENFIELD, Dissector, double-ended 195 mm, 7 3/4" (4) PENFIELD, Dissector, slightly curved 205 mm, 8" (5) PENFIELD, Dissector double-ended, slightly curved ends. 290 mm, 11 1/2"	2sets of 5 each		
5.	Intervertebral disc biopsy forceps, Casper type serrated cup non-glare finish. Length between 6"and 7" Cup sizes: 2mm, 4mm, 5mm,6mm; Cup direction: straight, angled up, angled down	12 pcs		
6.	Metzenbaum Scissors straight with rounded blades, conical points, 241mm (9 1/2 in.)	3		
7.	Metzenbaum Scissors curved with rounded blades, conical points, and 241mm (9 1/2 in.).	3		
8.	LANGENBECK, 19.5 cm, 7 3/4", round edge 18mm rib Raspatories	2		
9.	LANGENBECK Periosteal Elevators, wide, Blade width: 11/16" (17mm) Length: 7 1/2" (191mm)	2		
10.	O'Connell nerve root retractor, double ended, 216mm (8 ½").	1		
11.	Love Nerve Root Retractor angled shaft, 90° at handle, blade 5 x 5 mm.	1		
12.	Cushing nerve hook 71/2"	3		
13.	OFFSET Central Canal Impactor (Standard) used to impact symptomatic spondylophytes placed beneath and clear the neurostructures. Slip resistant, textured impaction surface is held perpendicular to surroundings bone planes and impacted with a mallet.	1		
14.	LATERAL Gutter Impactor, Used to impact symptomatic spondylophytes. Placed beneath and clear of neurostructures. Slip resistant, textured impaction surface is held perpendicular to surrounding bone planes and impacted with a mallet.	1		
15.	Laminectomy retractor, self retaining , hinged arms, approx. 12 long with Small, medium, large blades	2 each		
16.	Micro Lumbar dissectomy curettes, bayonet shaped, straight, length-10 ½", 264 mm, size – 2.5 mm, 3.5 mm	2		

17.	LISTON STILLE Bone cutting forceps, 260 mm, 10 ¼"	1		
18.	LUER-STILLE, 225 mm, 9", bone Rongeur straight	2		
19.	LUER-STILLE, 220 mm, 8 ¾", bone Rongeur curved	2		
20.	LUER-STILLE, 270 mm, 10 ¾", bone Rongeur	2		
21.	Echlin (2 x 10mm), 9", bone Rongeur.	2		
22.	Echlin (3 x 10mm), 9", bone Rongeur.	2		
23.	Echlin (4 x 10mm), 9", bone Rongeur.	2		
24.	FRYKHOLM, 230 mm, 9", bone Rongeur.	2		
25.	STILLE, 230 mm, 9", bone Rongeur.	2		
26.	LEKSELL-STILLE, 240 mm, 9 ½", bone Rongeur.	2		
27.	STILLE-RUSKIN, 230 mm, 9" Laminectomy Bone Rongeur 3mm bite curved.	2		
28.	STILLE-RUSKIN, 230 mm, 9" Laminectomy Bone Rongeur 3mm bite straight.	2		
29.	ROTTGEN-RUSKIN Bone rongeur, 240mm, 9 1/2"	2		
30.	BOHLER Bone Rongeur 2mm bite curved. Length 6"	1		
31.	BOHLER Bone Rongeur 3mm bite curved. Length 6"	1		
32.	COBB Spinal Elevators Blade Width: 3/8" (10mm) Total Length: 11" (279mm)	1		
33.	COBB Spinal Elevators Blade Width: 1/2" (13mm) Total Length: 11" (279mm)	1		
34.	COBB Spinal Elevators Blade Width: 3/4" (19mm) Total Length: 11" (279mm)	1		
35.	Hill Periosteal Elevators, double ended Semi sharp square edge & blunt round edge 220mm, 8 ¾"	1		
36.	CASPAR Bone Curette, square shaped toothed, 220mm, 8 3/4", 4mm	1		
37.	CASPAR Bone Curette, square shaped toothed, 220mm, 8 3/4", 5mm	1		
38.	CASPER Bone Curette, square shaped toothed, 220mm, 8 3/4", 6mm	1		
39.	CASPAR Curette, toothed, 250mm, 10", 4mm	1		
40.	CASPAR Curette, toothed, 250mm, 10", 5mm	1		
41.	Cobb Spinal gouges Tip width 1/4" (6mm) Length 11" (279mm) A. Straight B. Lesser Curve C. Full Curve D. Reverse Curve	3		
42.	FERRIS-SMITH-KERRISON 1mm pituitary punch, 180mm, 40 Deg. Upward cutting.	2		
43.	FERRIS-SMITH-KERRISON 2mm pituitary punch, 180mm, 40 Deg. Upward cutting.	2		
44.	FERRIS-SMITH-KERRISON 3mm pituitary punch, 180mm, 40 Deg. Upward cutting.	2		
45.	FERRIS-SMITH-KERRISON 4mm pituitary punch, 180mm, 40 Deg. Upward cutting.	2		
46.	FERRIS-SMITH-KERRISON 5mm pituitary punch, 180mm, 40 Deg. Upward cutting.	2		
47.	FERRIS-SMITH-KERRISON	2		

	Pituitary punch, 180mm, 7", 45 Deg. Downward cutting 1mm.			
48.	FERRIS-SMITH-KERRISON pituitary punch, 180mm, 7", 45 Deg. Downward cutting 2mm.	2		
49.	FERRIS-SMITH-KERRISON pituitary punch, 180mm, 7", 45 Deg. Downward cutting 3mm.	2		
50.	FERRIS-SMITH-KERRISON pituitary punch, 180mm, 7", 45 Deg. Downward cutting 4mm.	2		
51.	FERRIS-SMITH-KERRISON Pituitary punch, 180mm, 7", 45 Deg. Downward cutting 5mm.	2		
52.	CHISEL, straight, Length: 11" (279mm) Tip Widths: 6,10,13,19,25,32mm	6 (1 each)		
53.	Osteotomes, straight, Length: 11" (279mm) Tip Widths: 6,10,13,19,25,32mm	6 (1 each)		
54.	Osteotomes, curved, Length: 11" (279mm). Tip Widths: 6,10,13,19,25,32mm	6 (1 each)		
55.	Kerrison Rongeurs Hardy Style handle with ball spring Bite Size: 1mm, 2mm, 3mm,4mm Angle: 40º dn Shaft Length: 9" (225mm)	2pcs		
56.	Kerrison Rongeurs Hardy Style handle with ball spring Bite Size: 1mm, 2mm, 3mm,4mm Angle: 90º up Shaft Length: 9" (225mm)	4pcs		
57.	Kerrison Rongeurs Hardy Style handle with ball spring Bite Size: 1mm, 2mm, 3mm,4mm Angle: 90º dn Shaft Length: 9" (225mm)	2		
58.	MICRO SCISSORS (SPRING TYPE) BAYONET-SHAPED, YASARGIL, Micro-scissors straight 225mm, 9"	2pcs		
59.	MICRO SCISSORS (SPRING TYPE) BAYONET-SHAPED, YASARGIL, Micro scissors upwards curved, 245 mm, 9 3/4"	2pcs		
60.	MICRO SCISSORS (SPRING TYPE) BAYONET-SHAPED Fine, YASARGIL, Micro Scissors Straight 225 mm, 9"	2pcs		
61.	MICRO DISSECTING SCISSORS, BAYONET-SHAPED Fine, YASARGIL, Micro scissors upwards curved, 225mm, 9"	2pcs		
62.	MICRO SCISSORS (PISTON TYPE) straight and angled	1 each		
63.	MICRO NEEDLE HOLDER, BAYONET-SHAPED YASARGIL, Micro needle holder straight, 225mm, 9"	2pcs		
64.	MICRO FORCEPS, BAYONET-SHAPED, YASARGIL, Micro Forceps, Tips 0,6 mm, 240 mm, 9 1/2"	2pcs		
65.	MICRO FORCEPS, BAYONET-SHAPED, YASARGIL Micro Forceps, Tips 0.9 mm, 240 mm, 91/2	1pcs		
66.	Cone Skull Punch for fixing osteoplastic flaps non-glare finish. ADULT Adjustable for skull thickness up to 12mm CHILD Adjustable for skull thickness up to 7mm	1pcs		

67.	VENTRICULAR NEEDLES of 5 different sizes	5 (1 each)		
68.	Dural Scissors with guard	3		
69.	Towel Clip, approx. 3 ½"	12pcs.		
70.	Towel Clip, approx. 5"	12pcs.		
71.	Karamchand scalp retractor ergonomical design with 5x5 blunt prongs length: 8" (200 mm)	2 Pcs		
72.	Karamchand trephines, with Hudson brace fitting, A. Diameter: 1.5" B. Diameter: 1 75" C. Diameter: 2" (51mm) D. Diameter: 2 1/4"	4 pcs		
73.	Hamo Ligating clip applier Medium size 8".	4pcs		
74.	Bunnel Type Hard Drill with Jacobs Chuck Chuck Size: 5/32" (4mm)	1pcs		
75.	SHUNT TUNNELLER ADULT 18", 24"	2PCS		
76.	SHUNT TUNNELLER PAED.14"	1PCS		
77.	Peritoneal shunt trocar with obturator 3.0 mm and sheath 4.0 mm total length 150mm (6")	1 Pcs.		
78.	Leyla Flexible arm	2pcs		
79.	Support only, for flat brain spatulas, fixing to flexible arm.	2pcs		
80.	Support only, for brain spatulas with round shaft upto 5.5mm diam., fixing to flexible arm	1pcs		
81.	Fixation base, for skull mounting, holding 1 flexible arm	1pcs		
82.	Fixation Base, for skull mounting, holding flexible 2 arms	1pcs		
83.	Coupling Head to take 1-5 flexible arms	1pcs		
84.	Coupling Head turnable, can be fixed in any position, to take 1 flexible arm, if necessary several coupling heads can be attached	1pcs		
85.	Coupling Head, laterally open, can be fixed subsequently at any position on the holding rod	1pcs		
86.	Ball and socket joint, for fixing holding rod to pole of operating table max. 9 x 32 mm.	1pcs		
87.	Holding rod, for fixation in ball and socket joint and to take coupling head	1pcs		
88.	DAVIS BRAIN RETRACTORS Width Length width 12mm 200mm 8" 9mm 17mm 200mm 8" 12mm Brain Spatulas 250mm 10" 12mm malleable 200 mm, 8", 20MM,22MM Brain Spatulas, malleable	8pcs		
89.	MICRO FORCEPS, BAYONET-SHAPED, YASARGIL, Micro Forceps, Tips 0.9 mm, 220 mm, 8 3/4"	1pcs		
90.	FORCEPS FOR GRASPING TISSUE, TUMORS ETC. YASARGIL-SAMI, Tumor Grasping Forceps Jaw spoon-shaped, 240 mm, 9 1/2", 3mm, 5mm, 7mm	3pcs		
91.	FORCEPS FOR GRASPING TISSUE, TUMORS ETC YASARGIL, Tumor Grasping Forceps Jaw flat, serrated, 220 mm, 8 3/4", 3mm, 5mm, 7mm	3pcs		

92.	JACOBSON probe with ball tip 185mm, 7 1/4" DIA 1mm, 1.5mm.	2pcs		
93.	Micro Dissectors of various shapes and sizes	10pcs (1 each)		
94.	Micro Curettes of various shapes and sizes	10 pcs (1 each)		

- The supplier should provide a two year warranty on the products supplied
- To avoid break in patient care, in event of breakdown of any instrument, the supplier should provide an alternate part till the original is repaired and returned.

Q-1(117)M&E/11-

SPECIFICATIONS FOR

CAVITORY ULTRA SONIC ASPIRATOR

Seeking a cavitory ultrasonic aspirator for aspirating tumor tissue in brain and spinal cord. The system should meet the following specifications:

1. The system should be based on magnetorestrictive or piezoelectric technology with digital display of irrigation, suction & vibration.
2. The system should have inbuilt suction system with vacuum
3. The system should have inbuilt irrigation system.
4. The main unit should be portable (on wheels) or an appropriate mobile trolley stand be provided to enable portability of the unit.
5. Hand pieces:
    a. The system should have light weight hand pieces with reusable tips.
    b. The hand pieces should be detachable from the cable to enable quick and easy intraoperative exchange of hand pieces.
    c. Resonance frequency of the tip should be in the range of 25 to 45 Khz
    d. Following handpieces (all with permanent-reusable tips) should be supplied:

S. No.	Description	Tip diameter (outside) (mm)	Tip diameter (inside) (mm)
1.	Short Angled Macro handpiece	2.0-2.1	1.6-1.7
2	Medium Angled Macro handpiece	3.2-3.4	2.1-2.3
3	Long Angled Micro handpiece	2.2-2.4	1.6-1.8

6. A container for storing and sterilising handpieces should be provided.
7. Essential consumables required for running the main unit & handpieces for approx. 100 operations should be supplied.
8. The supplier shall provide 5 years AMC and next 5 years CMC. Quotation for same should be mentioned.
9. To avoid break in patient care, in event of breakdown of equipment or any of it's supplied parts, the supplier should provide an alternate set/part till the original is repaired and returned.
10. The system should be compatible with hospital electrical supply and the plugs should be Indian type.

Q-1(118)M&E/11-

Whole Body Phototherapy Unit

- Runs on 200V/50-60Hz power required should be below 10KVA.
- Compact and solid state circuitry mm 24 UVA & 24 narrow band UVB lamps and wireless operating controls.
- Special UV chokes for maximum life for the tubes.
- Integrated dosimeter system.
- Homogeneous all around irradiation.
- Highly polished/imported reflector for maximum irradiation.
- Micro computerized electronic LCD control to set Joules/time.
- Switches the system off automatically with warning alarm at the end of irradiation.
- All safety features provided with trippers and independent control for each panel.
- Cooling fans provided.
- Built in memory system.
- User and patient friendly.
- Facility of Hand piece to irradiates the local area of the body, specially palm/soles/elbows/knees and scalp.
- Long rust free life.

Accessories:

- UV Protective googles-10 pairs.
- Desktop computer with software for data entry.
  Operating system-Windows XP or above.
  Hard disk 320 GB or more.
  RM-2 GB or more.

Q-1(119)M&E/11-

GENERAL SPECIFICATION OF PATIENT BEDSIDE MONITOR

1. Equipment should be capable of monitoring.
    i. -NIBP
    ii. -Pulse Oximeter
    iii. -Body temperature
    iv. –Respiration
    v. ECG (5 lead)
    vi. Monitoring SP O_2 (Pulse oxmy meter)
2. Trend and listing facility of all parameter.
3. Audio Visual alarms.
4. Automatic and Manual alarm settings.
5. The equipment should be compact and portable.
6. Should be quoted with all accessories so that when installed the unit should be capable of full function without need for additional accessory.
7. The firm or its representatives should be based in Delhi for easy after sales service
8. The equipment should confirm to CE. IEC or equivalent standard for equipment of such category.

Q-1(120)M&E/11-

PORTABL FETAL DOPPLER

Pocket size Doppler for Obstetrics, Midwives and Pregnant women

Specification

Display	LCD Low batter Display Signal Quality Display
Heart rate range	50 – 240bpm
Accuracy	+ 2 %
Ultrasound Intensity	<10mW/cm
Ultrasound Frequency	2MHz
Speaker Output power	1.2 W
Longtime to continuous use	6 Hours
Built in Loud Speaker	Audio output for videos
Auto shut off	5 minutes
Auto shut of on signal	1 minute
Power	1.5 Battery X2 (Type AA)
Sensitivity	10 – 12 weeks onward
PC interface	Sound Card
Battery life	360 Minutes

Q-1(121)M&E/11-

SPECIFICATIONS OF ELECTRIC HAEMOGLOBINOMETER

1. Should be ready for immediate use with no caliberation required
2. Direct reading of total Haemoglonin in gm/litre
3. Photometric repeatalrlity of Hb + 0.5%
4. Accuracy of method 2%
5. Direct immediate 3 digit read out
6. Can perform Hb on sample size 20 mg
7. It can be used on capillary blood or anti coagulated various blood
8. Equal sensitivity to multiforms of Hb(including Hb S)
9. No dedicated, expensive or environmentally hazardous consumalities required
10. Can use ready available stable and inexpensive haemolysin diluent
11. Minimum operating cost and maintenance
12. Can be used with battery with 5 year life or approx. 1 million test and long AA size alkaline batteries(supplied)
13. Can be used with main power supply adaptor 200-400 V A.C.
14. Warranty 2 years

Q-1(122)M&E/11-

Specification for Reusable 5 mm

FULLY ROTATING BIPOLAR GRASPING AND COAGULATING INSTRUMENTS

for Multiple Puncture Operative Gynecological Laparoscopy

General:

- The completely assembled instrument should have an outer diameter of 5mm and a minimum working length of 30 cms
- Should consist of a ring handle with top mounted 45^0 HF bipolar connecting pin, insulated metal outer sheath with luer lock connector and insert
- The inserts should have two robust insulated jaws separated by ceramic insulated hinges, for optimal grasping, dissection and coagulation
- Shaft should be fully rotational through 360 degrees
- Can be completely disassembled in to the above separate components easily and quickly in a simple way and reassembled
- Should be autoclavable

Specific instrument: (with quantity required)

1. Grasping & coagulating forceps with double action fenestrated jaws, with fine atraumatic serrations complete instrument with insert, outer sheath and handle

   Quantity-6

2. Manhes grasping and coagulating forceps with double action jaw, complete instrument with insert, outer sheath and handle

   Quantity-6

3. HF bipolar cable compatible with the above instrument and standard electrosurgical units Quantity-6

a) The quoted equipment should confirm to CE & IEC standards or equivalent for such category of equipment
b) The unit should be quoted with all the accessories so that when installed the unit should be capable of full function without need for additional accessories
c) The firm or its representative should be based in Delhi for easy after sales repair.
d) 2 years onsite warranty with periodic maintaining visits (minimum 4 visits in a year) over these 2 years.
e) Should be willing to undertake maintenance repairs whenever necessary/AMC after the expiry of the warranty period for a minimum period of 5 years
f) Should provide a working demonstration of the equipment if asked for.

g) Should provide the original manufacturers data sheet of the equipment failing which the bid may be rejected.

Q-1(123)M&E/11-

General specification

Of

Full HD Endoscopic camera with monitor and light source

Full High Definition Endoscopic camera:

- It should have Pure digital signal with high definition video of 1920x1084p native resolution and progressive scan technology both on camera head and console
- Aspect ratio of 16:9
- The system should have Digital and/or Optical Zoom to enhance the quality of Image size & cross specialty standardization of the camera system, regardless of the telescope used.
- Digital zoom, white balance control and two peripheral controls on camera Head
- Integrated Gain/Shutter/Enhancement with automatic brightness control
- Multiple Video Outputs: DVI, SVHS, HDMI, direct fiber optic output (optional) etc
- The system should automatically optimize all settings. The system should be ready- to- use as soon as it is connected to the camera control unit.
- The system should be Menu driven, thus allowing the surgeon to program the camera head functions as per the surgical needs & requirement.

One Unit

High definition Flat screen Color video Monitor:

- Flat screen TFT monitor of 20" or more screen size
- Should be of medical grade
- Should have a full HD resolution of 1920 x 1080 pixels or more
- Aspect ratio of 16:9
- PAL system
- Multiple Video Outputs: DVI, SVHS, HDMI, direct fiber optic output (optional) etc
- Should be a table top model with provision for wall hanging

One Unit

Light Source:

Xenon light source

- 300 watts Xenon lamp
- Should have a color temperature of 6000 k or more
- Manual / automatic brightness control, continuously adjustable
- Rotatable light cable connector / adaptors for optional connection to various light cables
- Should be quoted along with 15 spare lamps

One Unit

Alternatively

LED light source

- 220 Volts , 300 watts
- Light Engine: Red, Green & Blue LED's
- Increased patient safety & added protection in OR with safelight technology
- Intuitive simple user interface with LCD touch screen
- Stand by Mode
- Universal Jaw Assembly to adapt any make of Fiber Optic Cable
- More than 10000 Hours bulb life
- Light Engine: Red, Green & Blue LED's
- Light outlets: 1
- Light intensity adjustment continuously adjustable from 0 to 100% manually

One unit

Fiber-optic light cable:

- 4.5 mm diameter
- Length of about 2 mts or more
- Should be capable of being used with commonly available telescope or light sources (provide necessary adaptors if needed)

Two units

a) The quoted equipment should confirm to CE & IEC standards or equivalent for such category of equipment
b) The unit should be quoted with all the accessories so that when installed the unit should be capable of full function without need for additional accessories
c) The firm or its representative should be based in Delhi for easy after sales repair.
d) 2 years onsite warranty with periodic maintaining visits (minimum 4 visits in a year) over these 2 years.
e) Should be willing to undertake maintenance repairs whenever necessary/AMC after the expiry of the warranty period for a minimum period of 5 years
f) Should provide a working demonstration of the equipment if asked for.
g) Should provide the original manufacturers data sheet of the equipment failing which the bid may be rejected.

Q-1(124)M&E/11-

SPECIFICATIONS FOR VACUUM EXTRACTOR PUMP WITH SILICON PUMPS

Should have

1. Noiseless suction unit should have fast vacuum build up
2. Vacuum should have maximum -90 Kpm/-675 mm Hg Suction Capacity 50 ltr/min and bottle capacity 3 ltrs
3. Suction system should have piston/cylinder(self lubricating)
4. Should have mechanical overflow protection system
5. Should be supplied with following accessories with each suction
   -3 ltrs suction container, polysulfone, graduated

   -Lid with overflow sensor and mechanical overflow protection device

   -Silicon tubing

   -Set of silicon cups 50 mm & 60 mm

   -Set of bird cups, stainless steel 40mm, 5mm & 60 mm

6. The price should be quoted with all the accessories so that when installed it should be

   fully functional

7. After sales service representative should be based in Delhi
8. Should have atleast two years warranty and after warranty it should be willing to take up AMC for 5 years
9. Instrument should confirm to CE Standard or equivalent standard
10. The product literature from the manufacturer should be attached with the quotation failing which the bid may be rejected
11. The firm should be willing to demonstrate the product if asked for

Q-1(125)M&E/11-

SPECIFICATION OF DELIVERY TABLE

- The framework should be made of solid robust rectangular and square pipe of SS
- Top should be of high grade medical stainless steel
- Should have perineal cut
- Should be provided with pelvic tray and drainage bowl and with lithotomy stirrups
- Overall size of table should be 72”L x 24”W x 30”H
- Mattress 5 cm foam cushioned top covered with rexine and perineal cut

Q-1(126)M&E/11-

Tender Cancel

Q-1(127)M&E/11-

SPECIFICATION FOR PORTABLE SPIROMETER

1. Facilities of measurement of :-
    i. Spirometry & Flow Volume Parameters.
    ii. Maximum Ventilation Volume.
    iii. Lung Volumes & Sub-divisions.
    iv. Pre & Post Bronchodilator comparison.
    v. Real Time Flow Volume and Volume Traces on Computer Screen.

2. Incorporated with precision heated pneumtachograph.

3. Should meet Criteria of ATS Standards:-
    i. Minimum Flow Range : + 0 -14 L/Sec (Linear)
    ii. Resistance : 0.5 cm H20/L/Sec.
    iii. Accuracy =Error less than 3%

4. Should incorporate Electronic Barometer & Temperature Sensors, for Automatic BTPS Correction.

5. Parameters should be measured with highest accuracy & reproducibility and accuracy not affected with Humidity, Moisture & Water droplets.

6. Facility to interface for desktop/Laptop computer. System software should be based on Windows XP Operating System.

7. Laptop Computer (HP)-2 GB RAM, 14`` TFT Screen, USB Ports, DVD R/W, Hard Disc Drive (1x320 Gbyte), HP Deskjet, UPS.

8. Should be supplied with Interfacing package, Cables, Software,3 Liter Calibration Syringe, Standard accessories & Manual.

9. Additional Accessories: Pneumotach Screens (05 Nos), Pulmonary Filters (50 Nos), Disposable Mouthpieces (250 Nos),

Q-1(128)M&E/11-

Tender Cancel

Q-1(129)M&E/11-

SPECIFICATION FOR 12 CHANNEL ECG MACHINE

1. Simultaneous acquisition of up to 12 lead.
2. Real time continuous recording of 3,6 and 12 channel.
3. Recording speeds of5,10,25 or 50 mm/sec.
4. Extensive ECG quality control by AC Noise Filtering and Baseline.
5. A4 size reports for convenient reading and filing.
6. Convenient battery operation for greater mobility.
7. Versaitle report formats and speed option to provide auto report or rhythm reports
8. User configurable filters.
9. Preview single quality prior to printing, saving time and paper.
10. Keyboard entry for patient ID information.
11. Capability to generate any number of ECG copies possible for filing and distribution.
12. Adult and pediatrics analysis programs std.
13. Automatic interpretation of ECG data.
14. Can be used for adult, pediatric and neonatal.
15. Operting manual complete.
16. Display 320x240 dot sing.
17. Is colour LCD.
18. 18.5.7-inch High Resolution Foldable screen.
19. QWERTY Alphanumeric keyboard.
20. Built-in ECG parameters measurements and Interpretation.
21. Print Mode: pre-sample/Real-Time sample/Arrhythmia Triggered sample.
22. Upto 100 ECG in Internal Memory.
23. Supports External Archiving:USB Drive for virtually unlimited ECG Data storage
24. Built –in Rechargeable Lithium Ion Battery
25. Data transmission to PC (Optional)
26. Warranty 2 years and AMC of 5 years as per Safdarjung Hospital norms.
27. Accessories – Stand, Cables, Electrodes, for Pediatric & neonatal, ECG jelly,ECG -Papers-500 pkt.

Q-1(130)M&E/11-

SPECIFICATIONS FOR CARDIOVASCULAR & HEMODYNAMIC MONITORING SYSTEM FOR HUMANS

1. Non invasive beat to beat blood pressure measurement instrument to measure brachial artery pressure using a finger arterial pressure measurement based on volume clamp & brachial artery reconstruction technology.

a. **System should allow measurement of**
   i. Systolic pressure
   ii. Diastolic pressure
   iii. Mean arterial pressure
   iv. Heart rate
   v. Inter heat interval
   vi. Cardiac output
   vii. Stroke volume
   viii. Heart rate variability
   ix. Baro reflex sensitivity
   x. Total peripheral resistance

b. The system should be supplied with cuffs to measure BP n children & adults with height correction unit with automatic zeroing.

2. System should have software controlled USB based eight channel data acquisition system amplification range ± 2mv to ± 10v in 12 steps.

Minimum sampling rate of 4, 00,000 samples (aggregate speed). All accessories including amplifiers & instruments to seamlessly interface with Data acquisition system & software.

3.Provision for 12 lead ECG resolving lead I, II, III, avF, avL, avR & V1 to V6 & analysis for vector cardiography. The module should include necessary chest & surface electrodes, all required consumables & stimulating electrodes. Powered speakers or audio out jacks should be present and the system should be approved to standard for human connection as a body protected instrument.

4. Infrared photoelectric sensor to record pulsatile blood flow from the finger, toe or forehead & a transducer with a piezo-electric element to convert force from finger blood pressure pulse.

5. Amplifier to measure pulse oximetry (O2 saturation readings from 70 -100%)

6. Phonocardiography – microphone based heart sound transducer & precision stethoscope to simultaneously record & auscultate heart sounds. The heat sounds are recorded in the frequency range of 10- 500Hz.

7. The software general specification are as follows

c. Online & offline analysis of pressure waveforms
d. Automatic calculation of systolic pressure, Diastolic pressure, pulse pressure, mean B.P.
e. ECG automatic & ECG cycle detection.
    i. Beat classifier view
    ii. Table view
    iii. 3D waterfall plot
    iv. QT/ RR Plot, QT/ Time Plot, RR/Time Plot
    v. HRV analysis – frequency & time domain poin care plot.
f. Software should analyze, store & print the data
g. Data should be displayed in scope mode & chart mode.
h. Allow free export/ import in standard binary text, Pdf formats & third party software.

8. Safety standards for connection to human subjects.

9. Software compatible with window & McIntosh

10. Free upgrade of software for period of 5 years

11.3 years manufacture warranty.

Q-1(131)M&E/11-

SPECIFICATIONS FOR SPIROMETER (BMR APPARATUS)

1. Should have water seal 6-litre capacity.
2. Four speed electrical recording unit with gravity writing ink pen.
3. Valves should be easily accessible.
4. Soda lime container with screw connected in the center chamber.
5. Drain cocks to all the tubes and container.
6. Sampling cock for connecting the patient to Spiro meter or atmosphere.
7. The unit should be fitted on a portable frame.
8. Facility to measure oxygen consumption.
9. Range of speed – slow (0.5 to1mm/sec) - fast (20 mm/sec)
10. Recording of lung volumes & capacities.

ACCESSORIES:

a. Valves
b. Corrugated rubber tubes,
c. Mouth pieces
d. Nose clips
e. Ink writing pen assembly
f. 50 chart papers

Q-1(132)M&E/11-

SPECIFICATIONS FOR PATIENT WARMING SYSTEM

1. Should be suitable for intra-operative applications.
2. Should consist of active warming arm-cum-shoulder section, pair of leg segments and abdominal segment to cover the entire body.
3. Should be based on semiconductor polymer foil for precise warming of entire patient body during & after surgery.
4. Size
   - Abdominal Segment : (40-45) cm x (85-90) cm
   - Arm & Shoulder Section : (170-175) cm x (28-32) cm
   - Leg Segment : (40-45) cm X (85-90) cm
5. Control unit should be capable of warming minimum four segments at a time.
6. Control unit should have Color LCD touch screen for easy operation.
7. Control unit should have touch screen display to select & display temperature of all four segments at a time.
8. Control unit should automatically detect the number of segments which are connected to the unit and display the same on the screen.
9. Should offer precise digital temperature control with selectable temperature range of 36 to 42º C in steps of 0.1ºC
10. Arm cum shoulder segment should be divided in two sections capable of being switched ON or OFF independently depending upon the nature of surgery and condition of patient.
11. Should have facility to measure & display the real time core body temperature of the patient continuously on the screen.
12. Should also have on screen graphical display of patient body temperature for the entire duration of surgery.
13. Should have facility to independently adjust the temperature of individual segment.
14. Should have a provision to connect whole body blanket & pediatric size blanket to the same control unit for future requirement.
15. Should have safety features such as Automatic check, Precise temperature control between warming system and patient, Autostop on detecting any problem
16. Should have non latex anti-bacterially coated, blood and fluid Resistant covers
17. Covers should be washable and replaceable
18. The control unit should be light weight not more than 3.6 kg, small in size (23 x11x16 cm approx.) and easily attachable to IV rod/OT table with fixing claw.
19. Should have low energy consumption and noiseless operation

Q-1(133)M&E/11-

Tender cancel

Q-1(134)M&E/11-

Tender cancel

Q-1(135)M&E/11-

TECHNICAL SPECIFICATIONS OF DEFIBRILLATOR

S.N.	Description of function
1.3	Defibrillator is required for reviving the heart functions by providing selected quantum of electrical shocks
S.N.	**Operational requirements**
2.13	Defibrillator should be Bi Phasic wave form Technology.
2.14	Should monitor vital parameters and display them
2.15	Should print the ECG on thermal papers
2.16	Should work on Manual and Automated external defibrillation (AED) mode
2.17	Should be capable of doing synchronized cardioversion. & Asynchronised cardioversion.
2.18	Can be operated from mains as well as battery
S.N.	**Technical Specifications**
3.19	Should be a Low Energy Biphasic defibrillator monitor with Recorder, having capability to arrest all arrhythmia within a maximum energy of 360 Joules.
3.20	Should monitor ECG through paddles, pads and monitoring electrodes and Defibrillate through pads and paddles.
3.21	Should compensate for body impedance for a range of 25 to 1500hms
3.22	Should have a built in 50mm strip printer/Thermal Recorder.
3.23	Should have charging time of less than 5 seconds for maximum energy.
3.24	Should have bright electroluminescent display for viewing messages and ECG waveform.
3.25	Should have external paddles with paddles contact indicator – for good paddle contact. Both Adult and pediatric paddles should be available.

3.26	Should have a battery capable of usage for at least 90minutes or 30 discharges.
3.27	Should be capable of printing Reports on Event summary, configuration, self test, battery capacity etc
3.28	Should have facility for self test/check before usage and set up function
3.29	Should have SP02,NIBP and non invasive pacing integrated facility
3.30	Should be capable of delivering energy in increments of 1-2 joules up to 30J and increments of maximum 50J thereafter.
S.N.	**System Configuration Accessories, spares and consumables**
4.12	Defibrillator - 10
4.13	Paddles Adult (pair) - 10
4.14	Paddles –Pediatrics(pair) - 05
4.15	Patient cable /ECG Lead -20
4.16	ECG Rolls - 500
4.17	NIBP Cuff Adult-10, Paediatric-3.
4.18	SPO2 finger probe -Adult-10, Paediatric-3.

The system should contains all the above accessories Integrated.

S.N.	**Environmental factors**
5.6	The unit shall be capable of operating continuously in ambient temperature of 10 - 40^0 C and relative humidity of 15-90%
5.7	The unit shall be capable of being stored continuously in ambient temperature of 0 -50^0 C and relative humidity of 15-90%
5.8	Shall meet IEC-60601-1-2:2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
S.N.	**Power supply**
6.5	Power input to be 220-240VAC, 50Hz

6.6	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements and IEC-60601-2-25 Safety of Electrocardiograms. (OR EQUIVALENT BIS Standard)
6.7	Resettable over current breaker shall be fitted for protection
S.N.	**Other Requirements**
7.1	Should be FDA/CE/Indian regulatory body approved.
7.2	Electrical safety conforms to standards for electrical safety
7.3	Manufacturer should have ISO certification for quality standards.
7.4	Model should be latest gereration.
7.5	Should have local service facility.
7.6	Comprehensive warranty for 5 years and AMC/CMC for next five years.
7.7	Availability of spares to be ensured for minimum 10 years period
7.8	Demonstration is must before approval and also working demonstration after installation.
S.N.	**Documentation**
8.12	User manual in English
8.13	Service manual in English
8.14	List of important spare parts and accessories with their part number and costing.
8.15	Certificate of calibration and inspection from factory.
8.16	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
8.17	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.

Q-1(136)M&E/11-

Equipment Specifications for Syringe Infusion Pump

1	**Description of Function**
1.1	The Syringe Infusion Pump provides uniform flow of fluid by precisely driving the plunger of a syringe down its barrel. It provides accurate and continous flow rate for precise delivery of I.V. medication in critical medical care.
2	**Operational Requirements**
2.1	The syringe pump should be programmable, user friendly , safe to use and should have battery back up and comprehensive alarm system. This should be able to integrate in the HIS
2.2	Demonstration of the equipment is a must.
3	**Technical Specifications**
3.1	Flow rate programmable from 0.1 to 200 ml/hr or more in steps of 0.1 ml/hr and from 100-1000 ml/hr or more in steps of 1 ml/hr with user selectable CAP flow set rate option. SAVE last infusion rate even when the AC power is switched OFF.
3.2	Bolus rate should be programmable to upto 500 ml/hr or more with infused volume display. SAVE last Bolus rate even when the AC power is switched OFF.
3.3	Display of Drug Name with a provision of memorizing 15-20 names of commonly used drug.
3.4	Keep Vein Open (KVO) must be available 1.0 ml/hr or set rate if lower than 1.0 ml. User should have choice to disable KVO whenever desired.
3.5	Selectable Occlusion pressure trigger levels selectable from 300/500/900 mmHg

3.6	Must Work on commonly available ISI/CE/FDA APPROAVED/CERTIFIED 20, 50 & 60 ml Syringes and tubing with accuracy of minimum of +/-2 or better.
3.7	Automatic detection of syringe size & proper fixing. Must provide alarm for wrong loading of syringe such as flanges out of slot; disengaged plunger, unsecured barrel etc.
3.8	Anti bolus system to reduce pressure on sudden release of occlusion
3.9	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, Drive disengaged and preventive maintenance.
3.10	Rechargeable Battery having at least 5 hour backup for about 5ml/hr flow rate with 50ml syringes. Larger battery life and indication of residual life will be preferred.

4 System Configuration Accessories, spares and consumables

4.1	Syringe Infusion Pump -50 Nos
4.2	Mounting device/ Docking Station for two or four pumps as per requirement so as to enable to power up to 2 to 4 pumps with one power cord when mounted on IV pole-25 Nos

5 Environmental factors

5.1	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
5.3	The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg. C and relative humidity of 15-90% .

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz.

7 Other Requirements
7.1 Should be FDA/CE/Indian regulatory body approved.
7.2 Electrical safety conforms to standards for electrical safety.
7.3 Manufacturer should have ISO certification for quality standards.
7.4 Model should be latest gereration.
7.5 Should have local service facility.
7.6 Comprehensive warranty for 5 years and AMC/CMC for next five years.
7.7 Availability of spares to be ensured for minimum 10 years period.
7.8 Demonstration is must before approval and also working demonstration after installation, and training of staff to operate the system.

8 Documentation	
8.1	Certificate of calibration and inspection from factory.
8.2	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.3	User Manual in English
8.4	Service manual in English
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.
8.6	List of important spare parts and accessories with their part number and costing.

Q-1(137)M&E/11-

Specification for Single chamber External Temparory Pacemaker

Enables a safe and effective heart stimulation indicated by rhythm and conduction defects, terminating of bradycardias prior to implantation or exchange of a pacemaker.

TECHNICAL DATA Requirement-06.

Operating modes- SSI,SOO

Basic Pacing Rate— 40-200 ppm. Continuously adjustable. Error less than 5%.
Over drive:200 to 300 ppm

R-wave sensitivity- variable from 1 mv to 15 mv.
Continuously adjustable. Error less than 5%.

Output pulse - 1-20 msec biphasic, asymmetric.
Continuously adjustable. Error less than5%.
Pulse width - 0.5-5msec.

Defibrillation protection- Mechanism for defibrillation protection.

HF-filter - for suppression of high frequency
interference pulses.

Indicator output pulse & sensed beats by LED flashes.

Battery control - battery change &. low battery Indicator

Battery - Standard Alkaline or lithium. Continuous operation more than 150 Hours.

Dimensions
& Weight - Lower weight & dimensions preferred

Accessories Patient cable, Carrying case, & one set of battery.
Other Requirements Should be FDA/CE/Indian regulatory body approved.

Electrical safety conforms to standards for electrical safety.

Manufacturer should have ISO certification for quality standards.

Model should be latest gereration.

Should have local service facility.

Comprehensive warranty for 5 years and AMC/CMC for next five years.

Availability of spares to be ensured for minimum 10 years period.

Demonstration is must before approval and also working demonstration after Installation, Training of staff after installation to operate equipment.

Q-1(138)M&E/11-

Equipment Specifications for Pulse Oximeter

1 Description of Function	
1.1	A pulse Oximeter is a medical device that indirectly measures the amount of oxygen in a patient's blood (as opposed to measuring oxygen saturation directly through a blood sample) and changes in blood volume in the skin, producing a photoplethysmograph
2 Operational Requirements	
2.1	Suitable for all types of Patient range :Adult, pediatric, infant, and/or neonate, light, weight, portable.
3 Technical Specifications	
3.1	Display- LCD, Backlight illuminated
3.2	Parameters and waveform displayed- SpO2, pulse rate, system status, plethysmogram, menus for user settings
3.3	SPO2 range- 70-100 %
3.4	Accuracy of SPO2- 3%
3.5	Pulse rate range should be 30-240 bpm
3.6	Audiovisual Alarms- High/low SpO2 and pulse rate, sensor off, sensor failure, low battery
3.7	Alarm override facility
3.8	Cable length should be minimum 1 meter
3.9	Integrated Printer
3.10	Battery back-up operating time 5 hours.

4	**System Configuration Accessories, spares and consumables**
4.1	System as specified- 5 Nos
4.2	SpO2: Adult SpO2 sensor with cable- two no's per monitor, Pediatric SpO2 sensors- one no. per monitor. Neonatal Sensor : total two Nos.
5	**Environmental factors**
5.1	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility. Or should comply with 89/366/EEC; EMC-directive.
5.2	The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
5.3	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
6	**Power Supply**
6.1	Should work on 220-240V AC as well as rechargeable batteries. Mains adaptor to be supplied
6.2	Rechargeable battery operated system. Charger to be provided if integrated charger is not there
7	**Other requirements**
7.1	Should be FDA/CE/Indian regulatory body approved.
7.2	Electrical safety conforms to standards for electrical safety.
7.3	Manufacturer should have ISO certification for quality standards

7.4	Model should be latest gereration.
7.5	Should have local service facility.
	Comprehensive warranty for 5 years and AMC/CMC for next five years.
7.6	Availability of spares to be ensured for minimum 10 years period.
7.7	Demonstration is must before approval and also working demonstration after installation.
7.8	

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.
8.2	Certificate of calibration and inspection.
8.3	List of important spare parts and accessories with their part number and costing

Q-1(139)M&E/11-

Specifications for ETO sterilization machine

"Ethylene oxide sterilizer" is equipment which uses ethylene oxide as a biocide to destroy bacteria, viruses, fungus and other organisms. Ethylene oxide is used in sterilization of items that are heat and moisture sensitive.

1. The ETO gas sterilizer should be fully automatic type, for sterilization of heat sensitive items such as tubing and other plastic disposable Cardiac Cath Lab catheters etc.
2. The sterilization chamber should be double walled, corrosion and gas resistant of suitable alloy. The inner surface should be smoothly finished to minimize gas deposits. The chamber shall be insulated against heat emission and the jacket shall be connected to the warm water circulation arrangement.
3. The sterilizer door shall have a quick release locking arrangement with door opening. Suitable safety interlocking arrangement shall be provided for the door so that the sterilization process does not start unless the door is properly locked in position and during the program run it should not open.
4. The sterilizer shall be provided with a suitable vacuum pump and gas trap to separate and evacuate the gas.
5. The sterilizer shall be provided with an automatic programmable panel with memory for preset operating sequence of all programs of operation. Monitoring instruments should be provided with the ETO for proper operation and monitoring of sterilizing process such as pressure manometer, thermometer, and limit selector for temperature and pressure etc. display to show cycle status.
6. The ETO sterilizer should be able to operate for the minimum essential following cycles programmes:
   a. Sterilization cycle for heat sensitive objects that ensure temperature from 37-75 degree C with subsequent aeration for protection of the operating personnel.
   b. Aeration cycle/program to extract residual gas out of the sterilized objects after each sterilization cycle.
   c. Automatic chamber evacuation cycle with subsequent venting before releasing the door lock for opening, thereby prohibiting exposure of the operating personnel by gas dissolving from the Chamber walls, during shutdown period.
   d. Gas disposal arrangement / catalytic converter.
7. Capacity: Minimum 7 -10 cubic feet/per cycle. Firm should clearly state cycle time (Time from start to finish including aeration time) so that capacity to process total load in 24 hr can be calculated. Inside dimensions of chamber should be suitable for sterlization of upto 30 inches long catheters.
8. Technical data
   a. ETO sterilizer: 1 No.
   b. Sterilization gas: Ethylene oxide.
   c. Sterilization method: Cold sterilization of heat sensitive materials.
   c. Operating temp. Range: 37 to 75 degree C.
   d. No. of doors: One.
9. Sterilization basket of suitable size with length of atleast 110 cm- 2 Nos

10 a. ETO gas cartridges: 25 Nos.

b. Compressed Air Plant Packing Material for about 1000 cardiac cath lab catheters with Chemical Indicator.

11. Sealing Machine Heavy Duty suitable & compatible with model quoted- two.
12. Aeration time around 12 hours in 50-55 degrees Celsius
13. Sterilization and aeration in the same chamber as a continuous process.

The entire unit & Gas cartridges should be EPA (Environmental Protection Agency or certified for Government authority in India. Statutory concerned with Environment protection & occupational safety regulations applicable)

14. The unit shall be capable of being stored continuously in ambient temperature of 0 - 50 deg C and relative humidity of 15-90%
15. Power Supply Power input to be 180-270VAC, 50Hz, 6.2. UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.
16. Standards, Safety and Training. Shall meet International Organization for Standardization. Biological evaluation of medical devices.
17. National standard for ETO Safety.
18. Local Pollution Control Board clearance is mandatory.
19. Certificate of calibration and inspection.
20. List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
21. List of important spare parts and accessories with their part number and costing.
22. Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.

23 Other Requirements

- Should be FDA/CE/Indian regulatory body approved.
- Electrical safety conforms to standards for electrical safety.
- Manufacturer should have ISO certification for quality standards.
- Model should be latest gereration.
- Should have local service facility.
- Comprehensive warranty for 5 years and AMC/CMC for next five years.
- Availability of spares to be ensured for minimum 10 years period
- Demonstration is must before approval and also working demonstration after installation, Training of staff after installation to operate equipement

Q-1(140)M&E/11-

Equipment Specifications for Ventilator Portable-Transportation

1 Description of Function

The portable ventilator is used for artificial respiration support for short periods during transport or till proper ICU ventilator can be connected.

2 Operational Requirements

1 Should be microprocessor controlled, portable, light weight

2 Should operate with main electric supply as well as with battery.

3 Should be able to work both with cylinders and pipeline, connectors and high-pressure tubing of appropriate length to be supplied

3 Technical Specifications

1. Should have in built air compressor.

2.Should have following modes of ventilation:

CMV, SIMV, PS-PEEP, BiPAP

.3 Audio-visual alarms for

a. Low supply pressure
b. High/low airway pressure
c. Leakage/disconnection
d. Power failure
e. Apnea
f. Low battery

4 Should have following settings

a. TV 50 – 1500ml

b. PEEP/CPAP & PS
c. RR up to 40bpm
d. I: E ratio 1:3 to 2:1
e. FiO2 : 40 – 100%

5 Battery backup for minimum 1 hour with rechargeable batteries.

6 Should fix, on rails of transport trolley and on stand with wheels.

4 System Configuration Accessories, spares and consumables

Portable Ventilator: 1 No

Portable Ventilator will be supplied with all accessories as detailed below:

1 Adult Reusable /Autoclavable Silicon Patient Circuit20

2 Paediatric Reusable/Autoclavable Silicone Patient Circuit05

3 Oxygen Hose-05

4 Air Hose-05

5. Rechargeable Batteries-03 set

5 Environmental factors

1. The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%.

2 The unit shall be capable of operating continuously in ambient temperature of 10-40 deg C and relative humitidy of 15-90%

6 Power Supply

6	Power input to be 220-240 VAC, 50Hz fitted with Indian plug.

7 Other Requirements

1 Should be FDA/CE/Indian regulatory body approved

2 Electrical safety conforms to standards for electrical safety

3 Manufacturer should have ISO certification for quality standards.

4 Model should be latest gereration.

5 Should have local service facility.

6 Comprehensive warranty for 5 years and AMC/CMC for next five years.

7 Availability of spares to be ensured for minimum 10 years period

8 Demonstration is must before approval and also working demonstration after installation and training of staff regarding operation of equioment.

8. Documentation

1. User/Technical/Maintenance manuals to be supplied in English.

2. Certificate of calibration and inspection.

3. List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer service/ maintenance manual.

4. List of important spare parts and accessories with their part number and costing.

5. Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of hospital technician and company technician clearly spelt out.

6. Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number with authenticated catalogue/manual, without which it will not be considered.

Q-**1(141)M&E/11-**

Specification for Suture Tensioning Device

Suture Tensioning Device with Tensionmeter to allow graft tensioning intra operatively for transtibial & all-inside ACL/PCL reconstuction. It should have foot-piece with spikes to be used with tensioner for secured grip around the tibial tunnel while interference screw fixation during tensioning. Also it should be possible to tie graft sutures over button or suture post without foot with simultaneously tension over graft with following requirement----

Suture Tensioner with Tensionmeter ----------Qty. 01

Tensiometer Foot----------Qty. 01

Demonstration is an essential part of specifications.

Q-1(142)M&E/11-

TECHNICAL SPECIFICATION

CHILLING UNIT

- The Unit should be provided with Thermostat Temperature control.
- The Unit should have temperature ranges from – 12deg to -6deg.
- The Unit should have detachable insert rack to hold and suspend packs for cooling.
- The Unit should be supplied with Twelve (12) standard Col Packs, of size 28 x 36 cm.
- The Unit should be made of stainless steel with rubber wheels for easy mobility.
- The Unit should be of the International Safety standard like CE/TUV.
- The Unit should have energy efficient insulated casing.
- Unit should works on 220-240V/50Hz.
- Demonstration is an essential part of specifications.

Q-1(143)M&E/11-

TECHNICAL SPECIFICATION

ULTRASOUND HANDS FREE WITH SUCTION

The system should have following features:

- Provided two patented forms of modulation:

-Duty cycle modulation

-Amplitude modulation to reduce the undesired intensity peaks.

- Supplied with Hands Free Ultrasound head to increase comfort for both the patient and the therapist.
- Supplied with Multi-Frequency Treatment Ultrasound Heads ERA 5.0 cm^2 as standard.
- Provided with User Friendly software for the therapist.
- Help button to assist the therapist.
- Provided with colour TFT screen to display the parameters.
- System should be upgradable and with Inbuilt Vacuum Unit.
- Equipment Trolley.

Ultrasound Frequency	:	1 & 3 MHz
Ultrasound	:	Continuous and Pulsed
Pulse Frequency	:	16, 48, 100 Hz
Duty Cycle	:	5,10,20,5080,100
Number of Connections	:	02
Programmable Positions	:	Unlimited.

Should be International Safety Standards like CE/TUV certified.

- Demonstration is an essential part of specification.

Q-1(144)M&E/11-

ELECTOTHERAPY UNIT

- 4 Channels Micro Processor Controlled Electrotherapy Unit with 8 Rubber Electrodes.
- Touch-screen large LCD for all parameters setting with fingerprint resistance.
- Simultaneous monitoring of 4 Electrotherapy & one ultrasound Channels.
- Current modes: 2 and 4 Pole IFT, EMS, Russian, Micro Current, TENS, DC and Hi-Volt.
- IFT, EMS and TENS Frequency up to -250 Hz: 300Ma and Micro Current up to 750 µA.
- Vector sweep: 4 step of 15^0 from o to 45^0
- Digital Timer: 1-60 minutes.
- Memory storage of: at least 60 preset & 70 free programs.
- Additional facility of Ultrasound therapy with 1 and 3MHz with max BNR of 4 for better results.
- Should be supplied with 2 independent Vacuum Units which may be connected with Electrotherapy Unit for space saving providing 8 vacuum electrodes_for enhancing the operability of electrotherapy units especially in abdominal & back regions.
- Each vacuum unit should be with 4 vacuum electrodes so that 2 units will have 8 vacuum electrodes.
- It should have Latest technology with blow out vacuum system which eliminates the need of water reservoir & reduces maintenance.
- The unit should have vacuum strength up to 100 mm Hg.
- The unit should operate on 240 VAC with 50 Hz frequency power supply.
- Demonstration of the quoted model must be provided as a part of technical specification.

Delivery Contents:

- 4 Channel Electrotherapy Unit with two sets of 8 Rubber Electrodes and 8 Sponges, and 4 Cables & 8 Velcro straps.
- 1 Additional Ultrasound Probe for independent operation as additional feature.
- 1 Therapy manual & Protocol guide.
- 2 Vacuum Units for connection to 8 electrodes.
- 1 Micro Current Probe for patients application.
- 1 HV/DC Probe for patients application.

Q-1(145)M&E/11-

TECHNICAL SPECIFICATION

VIBRATION SYSTEM

The unit should have the following features:-

- 20 Volt Brushless motor with internal 24 Volt/150 W Transformer.
- Variable Frequency Controls 0-60 Cycle Per Second.
- Rolling Caster stand & accessory tray.
- Must have Physio kit of 4 different applicators for Soft Massage, Deep Massage, Trigger Point , and Relaxation Drainage.
- Directional - stroking combines both Horizontal and Vertical Forces.
- Useful for Physiotherapy, Sports Therapy, Chiropractic, Osteopathy.
- Operable On 230 Volt/50 Hz.
- Should be supplied with CVT of required rating.
- Demonstration is an essential part of specifications.

Q-1(146)M&E/11-

TECHNICAL SPECIFICATION
BODY COMPOSITION ANALYSER

The unit should not be based on Empirical Estimation and shold be independent of age and gender.
The unit should have segmental analysis of body composition for Right arm, Left arm, Trunk, Right Leg, & Left Leg for more accuracy and evaluation of fluid distribution in each segment of the body.
The unit should be based on Multi- frequency impendence Analysis.

Electrode Method	#	8-Point Tactile Electrode System
Frequency Range	#	20kHz, 100 kHz
Applied Rating Current	#	330µA
Outputs	#	Total Body Water, Protein, Mineral, Body fat mass, Skeletal Muscle Mass, Fat Free Mass, Weight (kg), BMI, Percent Body Fat, Waist-Hip ratio (WHR), Nutritional Evaluation (Protein, Mineral, fat), Target weight, Weight Control, Fat Control, Muscle Control, Fitness Score, Basal Metabolic rate, exercise planner (Energy Expenditure for each Exercise), Recommended calorie intake per Day, Total Weight, Impedance of each segments & Frequencies
Display Unit	#	320 x 240 STN LCD
Input Interface	#	Touch Screen
Print Unit	#	Inkjet Printer
Computer Interface	#	RS232C
Measurement Duration	#	35 Seconds
Age Limits	#	6~99 years
Weight Range	#	22 ~ 55 lbs (10 ~ 250 kg).
Machine Weight	#	57.3 lbs (26 kg).

Demonstration is an essential part of specifications.

Q-1(147)M&E/11-

Tissue Hardness Meter and Dynamometer Combo Unit

- It should have combination of Dynamometer, Tissue hardness meter with Algometer for respective measures.
- Dynamometer for measuring muscle strength.
- Tissue hardness meter for measuring Tissue Hardness.
- Algometer which measured pain threshold.
- It should display muscle force, tissue hardness and degree of pain in numerical values to allow objective evaluations.
- Measurement results should be printed by optional wireless Bletooth linked printer.
- It should be light in weight approz.400 g.
- Power supply: DC 9V alkaline battery.
- Safety Class: Internally powered Equipment Type B.
- Dynamometer should be supplied with following type of attachment ;
    - Larged Curved
    - Medium,
    - Small.
- Tissue Hardness meter should be supplied with Tissue Hardness meter tip plate.
- Algometer should be supplied with following tip attachment along with Patient switch.
    - Large
    - Small
- Demonstration is an essential part of specifications.

Q-1(148)M&E/11-

Therapeutic LASER Unit with 3 Probes

- Portable therapeutic laser for fast repairing of superficial tissue, ulcers, wounds, post surgery, burns, dermatology including acne, eczema and psoriasis, skin conditions, infection control, cold sores etc.
- It should be supplied in a carry bag enabling it to be used both in the field as well as in clinic.
- It should be a solid state GaAIAs laser with built-in rechargeable battery.
- It should have 5-10 interchangeable pulsing frequencies between 2.5 Hz to 10 Hz.
- The unit should have automatic calculations of surface energy, density, preset treatment time and total treatment time.
- It should be equipped with Acupuncture point finder and automatic probe recognition.
- It should be equipped with Beam test measurement for checking the power of probes.
- It should indicate visible warning when probe is capable for emitting rays or in use.
- The unit should be supplied with the following :
    - Single laser probe of wavelength 820nm and 50mW power with auto clavable tip.
    - Single laser probe of wavelength 915nm/100Mw.
    - Multi-diode cluster probe with \minimum 40 diodes of various wavelengths from 660 to 950 nm.

- The unit should be CE/MDD marked.
- The unit should be with a trolley.

Delivery should contain:-

- Base Unit with built-in rechargeable battery.
- One 46 diode cluster probe.
- One 915nm/100mW Single Probe.
- One 820nm/50mW Single Probe.
- Acupuncture Tip and hand Probe.
- Soft Carrying Case and 2 safety Goggles.
- Operation Manual.
- Demonstration is an essential part of specifications.

Q-1(149)M&E/11-

Muscle Stimulator With TENS & Micro Current

- The unit should be able to give electrical stimulations which help in treatment and relaxation of muscle spasms and give relief of chronic pain.
- It should be portable, dual power supply (AC/DC) unit.
- It should consist of 2 independently controlled output channels.
- It should have various output modes like TENS, EMS and Micro current.
- The TENS mode should consist of 4 sub-modes namely Constant, Burst, Surge, Sweep with frequency ranges between 1-200 Hz and phase duration of up to 240 µs.
- The EMS mode should consist of 2 sub-modes namely Synchronous or Alternate with carrier frequency ranges from 25-95 Hz, Phase duration of up to 450 µs. with ON-OFF time.
- The unit should be able to give max. Current amplitude for TENS and EMS mode up to 99 mA.
- The Micro current mode should give constant stimulations from 1 -399 Hz frequency range with phase duration of 50% duty cycle and able to give up to 750 µA amplitude.
- In TENS/EMS and Micro current mode, there should be at least 15 preset programs.
- It should have digital timer of 90 minutes.
- It should be supplied with AC Adapter, 4 rubber electrodes with 4 electrode sponges, 2 lead wire, 2 straps and 6 Battery.
- Demonstration is an essential part of specifications.

Q-1(150)M&E/11-

ICE MAKING MACHINE

Features:

- It should produce up to 150 lbs. of Ice.
- The minimum storage capacity of Ice should be 80 lbs.
- It should deliver maximum reliability by reducing scale build up for a longer time between cleanings.
- It should have Auto Alert Indicator lights that constantly communicates operating status with indicating lights behind the front panel allowing staff to see when its time to descale, sanitize and more making up keep practically full proof.
- It should allow clear access to all internal components with easy to remove door and top panel that takes the hassel out of cleaning.
- The unit should have compact design weighing approximately 175 lbs, allowing for the placement in tight lacations having approximate dimensions of- 26” W x 28” D x 33” H.
- It should be UL and NSE certified.
- Demonstration is an essential part of specifications.

Q-1(151)M&E/11-

LONG WAVE DIATHERMY

SPECIFICATION:-

- Unit should be base on Microcontroller platform.
- Wave length should be 300 meters.
- Frequency should be up to 1 Mhz.
- Treatment timer should be up to 30 min digital.
- Display should be with back light graphic LCD.
- Out put Power should be variable in 100 steps Digitally Controlled.
- Mains should be 230 V AC, 50Hz.
- Unit should have facility to select disk size from software.
- Demonstration of the quoted model must be provided as a part of technical specification.

Unit should be supply with following Standard Accessories:-

- Applicator with three different size diameters disk two each.
- Lotion bottle: 5 ltr.
- Operating Manual 1No.
- Carry Bag 1No.

Q-1(152)M&E/11-

Specification - Fumigation Machine
Particle size generation of 5-15 microns
Particles should reach to a distance of 20 feet
Suitable for a room size of 500 sqft
An easy to clean, detachable and non - corrosive chemical solution tank.
Chemical solution tank of capacity 3 ltrs
Tank must be in square shape with removable stainless steel 304 lid with brass/SS bolting
Tank must have transparent removable cap and transparent level indicator.
Equipment width & length ration must be approximate 1:2
Empty weight should not be more than 6 kg
Should be operated in 200 - 245 V AC, 50Hz input power supply.
Power intake should not be more than 1250W
Appropriate flow control valve to control 0 - 60 ml/ min
0-60 min control timer
Motor casing must be powder coated with at conducting material.
Easy detachable nozzle.
Should have an appropriate non conducting handle.
Accessory Sodium perbonate and 15gm TAED in 100gm Aldehyde free, QAC free. Should have DGHM, ISO 9001, ISO 14001, DQS Certifications – 400 Nos.
* Demonstration is essential part for technical qualification of quoted model

Q-1(153)M&E/11-

Tender cancel

Q-1(154)M&E/11-

Arthroscopy Cautery

1	Arthroscopy System based on low temperature (40-70° C) having Bi-Polar Radio frequency technology to avoid need for the secondary patient grounding pad.
2	The output voltage settings should be controlled by regulation on the generator from setting 1-9
3	The generator should have a feature of Automatic scope saver, i.e. when the probe comes too close to endoscope, the controller pauses radiofrequency output and resumes radiofrequency output when the probe is returned to safe distance.
4	The generator should have facility to use a foot control or a wireless footswitch for convenience and ease of use.
5	There should be facility to adjust coblation and coagulation with different settings from console as well as from footswitch.
6	There should be a facility in the generator with inbuilt TIMER device for minimally invasive treatments of Tendons and Fascia
7	The generator should be able to take 42 different types of probes for open and minimally invasive arthroscopic procedures
8	The RF generator should be able to take full range of probes for Tendon and fascia treatments
9	Arthroscopy probe with suction having dia of 3.75mm,90 deg--- 10 no
10	Arthroscopy probe with suction having dia of 3 mm,50 deg-10 no

* Demonstration is essential part for technical qualification of quoted model

Q-1(155)M&E/11-

Specification of Arthroscope Set 4mm ,30°	
S/N	**Specification**
1	4mm,30 Deg Arthroscope
	4mm, 30 degree wide-angled autoclavable arthroscope with scratch resistant sapphire tip and stainless steel shaft---05 No
2	Two valve Rotatable Outer sheath compatible for 4mm arthroscope with blunt trocar and blunt obturator---05 No
	Service centre of the equipment should be located in Delhi
	*Demonstration is essential part for technical qualification of quoted model

Q-1(156)M&E/11-

Clearing Agent Tender

The rates should be valid for the period of two years with provision for extension for 3rd year from the date of work order subject to mutual consent and terms & conditions noted below:-
Please offer your minimum hospital rates for clearing charges for Custom Ware House, Container Depot, Delhi, Foreign Post office etc. for clearing Equipments, Drugs, Chemicals, spare Parts etc. as per format in Annexure A.

1. EMD/bid Security of Rs. 1, 00,000/- only (Rs. One Lakh Only) in shape of Demand Draft/Bank Guarantee issued from any nationalized bank drawn in favor of the Addl. D.G. & M.S., Safdarjang hospital, New Delhi valid for a period of 39 months, should be attached alongwith the quotation failing which quotation will be cancelled without any reference. The EMD/Bid security deposited against other tenders cannot be adjusted or considered for this tender. No interest is payable on Bid Security. The EMD will be returned after bank guarantee is submitted by successful bidder.
2. Successful bidder is also required to deposit Bank guarantee for Rs. 5,00,000/- only (Rs. Five lakhs only) in shape of Demand Draft/Bank Guarantee issued from any nationalized bank drawn in favor of the Addl. D.G. & M.S., Safdarjang hospital, New Delhi. Bank guarantee should remain valid for sixty days after expiry of all contractual obligations failing which quotation will be cancelled without any reference.
3. Necessary documents will be provided at the time of arrival of the consignment and same will be cleared immediately (not later than 3 days) on receipt of all documents required for custom purpose and delivered at this hospital.
4. In case, consignment is not cleared within stipulated period of 3 working days, please give reasons for the delay in clearing the consignment. If the reasons are found unsatisfactory the extra demurrage/ Godown charges involved will be borne by the firm.
5. The documents are to be collected from this office as soon as a telephonic information / fax / email is received by the clearing agent.
6. After receipt of all documents clearing agent will inform to this office regarding latest position for the clearance of consignment on day to day basis.
7. In case consignment hasn't been cleared due to any reasons and needs to be auctioned, such information should be submitted to this office sufficiently in advance without any failure so that stores may be cleared without being auctioned.
8. Payments will be made against your pre-receipted bill in duplicate on receipt of stores for services rendered by you.
9. Quoting firm will have to provide a photocopy, duly attested of their valid License failing which their offers will be treated as rejected without any further reference.
10. The approved vendor has to clear the consignments coming through Air/Sea/FPO by paying all expenses (Govt./Pvt.) including AAI charges at their own and expenses incurred will be reimbursed to the approved vendor as per agreement rates, terms & conditions after production of the documentary evidences.
11. Satisfactory performance report(s) for the last 5 years issued from any Govt./Semi Govt. organization to be attached by the bidder.
12. Custom clearing documents such as copies of bill of exchange, custom bill etc. should be submitted alongwith the released consignment.
13. The tenderer shall furnish a non blacklisting/suspended certificate that the firm has not been blacklisted in the past by any Govt. organization/Pvt. Institution.

14. Tenders will be opened on 7.10.11 at 10.30A.M. in the presence of attending tenderers. If stipulated date happens to be a public holiday, the tenders will be opened on the next working day at the same time.
15. The Addl. D.G. & M.S., reserves the right to accept or reject the offer in part or in TOTO without assigning any reasons and also terminate contract at any time.
16. In the event of unsatisfactory services or on stoppage of clearance work by the agent, the Addl. D.G. & Medical Supdt., Safdarjang Hospital, New Delhi reserved the right to get the work done from outside agency at their risk and cost and also terminate the contract at any time without assigning any reasons. In case of any dispute about the interpretation of the clause, the decision of the Addl. D.G. & M.S. Safdarjang Hospital, New Delhi will be final and binding.
17. This contract may be terminated any time by giving 1 month written notice by Safdarjang Hospital and 6 months written notice by approved vendor by registered post with acknowledgement dues.
18. Force Majeure with adequate proof would be considered by both the parties. The decision of the Addl. D.G. & M.S. Safdarjang Hospital, New Delhi will be final.
19. The jurisdiction of all suits shall be within the courts at Delhi/New Delhi.
    If you are interested for this job, you may submit your quotation on or before opening time in Tender Box at Old M.S. Office.

FORMAT FOR FINANCIAL BID/PRICE BID

Annexure-A

Sub:- Tender enquiry for the appointment of Clearing Agent who will clear the Imported Stores from Custom Department, I.G.I. Airport, New Delhi, Container Depot, Delhi or Foreign Post office, New Delhi.

Typed or neatly handwritten, (cutting/overwriting/white fluid application etc. should be avoided) Performa in the format given below only should be submitted. Please offer rates in the specified columns or NIL. No columns should be left blank, if any column is found blank, it will be considered as 'NIL'.

Charges for FOB consignment/per bill of entry consignment				
S.No.	Charges	Custom Clearance by Air	By SEA	By FPO
1.	Lump-sum agency charges/ attendance charges per bill of entry (in INR)			
2.	Transportation including loading/unloading and delivery charges upto SJH including other charges in following forms Up to 100 Kg. 101 Kg to 500 Kg. Above 501 Kgs.			
5.	Crane/Fork Lift charges upto 200 Kg Above 200 kgs. (per kg.)			
6.	Service tax as applicable			

1. Rates should be offered on Lump-sum basis irrespective of C.I.F. value in the given format only, failing which offer will be treated as cancelled and the EMD/ Security money will be forfeited.
2. Selection will be made on composite basis.