6 Power Supply	
6.1	Power input to be 220-240VAC, 50Hz,/440 V 3 Phase as appropriate fitted with Indian plug
6.2	Resettable overcurrent breaker shall be fitted for protection
6.3	Suitable Servo controlled Stabilizer/CVT
6.4	UPS of suitable rating conforming to IS-302 shall be supplied for computer system
7 Standards and Safety	
7.1	Should be US FDA , CE,UL or BIS approved product
7.2	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
7.3	Manufacturer should have ISO certification for quality standards. And warranty as per bids..
8 Documentation	
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	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 Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

Item No. 24

Equipment Specifications for DIELECTRIC TUBE SEALER

1 Description of Function	
1.1	Blood Bag Tube Sealer is a compact equipment to seal the Blood Bag pilot tube by radio frequency sealing system
2 Operational Requirements	
2.1	The system should be heavy duty and be able to seal the blood bag etc quickly and effectively.
2.2	Should be simple to handle
2.3	System should gently seal the tubing with no hemolysis.
3 Technical Specifications	
3.1	Should be a heavy duty tube-sealer capable of making wide seal of 2 mm thickness.
3.2	Should be for bench-top use.
3.3	The sealing time should be adjustable between 0.5-5 seconds
3.4	Sealing trigger should be automatic
3.5	Should also have extended portable hand unit Sealing hand should be with coaxial cable of 1.5-2.0 meter.
3.6	Should have indication lamps for “Sealing Process” on handle as well as main unit and LED to show the battery test.
3.7	No warm-up time should be required.
3.8	Should ensure easy separation of tube segments after the sealing
3.9	System should run on both mains and battery (more than 10hrs. back up and charger).
3.10	On batteries it should seal more than 500 seals on PVC- tubes in continuous mode.
3.11	Should be compact, light weight and portable, weighing not more than 6 Kg .
4 System Configuration Accessories, spares and consumables	
4.1	Tube Sealer -01
4.2	Standard Accessories – 01
5 Environmental factors	
5.1	The unit shall be capable of operating continuously in ambient temperature of 10 -400 C and relative humidity of 15-90%
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	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.

6 Power Supply

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.
6.2	Resettable overcurrent breaker shall be fitted for protection
6.3	Suitable Autovoltage corrector with spike protector should be available.

7 Standards and Safety

7.1	Should be US FDA or CE approved product
7.2	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
7.3	Manufacturer should have ISO certification for quality standards.
7.4	Class II type-B device to protect against electric shock.
7.5	Electrodes should be well protected by a cover Warranty as per bid.

8 Documentation

8.1	User manual in English
8.2	Service manual in English
8.3	List of important spares and accessories with their part number and costing.
8.4	Certificate of calibration and inspection from factory.
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.
8.6	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

Item No. 25

Micro Pipettes (Mechanical)

1. User friendly high performance air displacement pipettors with compression spring mechanism
2. Should have Comfortable hand grip
3. Should have Consistency in quality
4. Should have Quick Click with digital display of volume setting
5. Should have Separate tip ejector
6. Should have Light weight ergonomic design
7. Should have Auto clavable tip cone
8. Should have Non Metallic internal Part
9. Should have Volume range from 0.5-10ul, 5-50ul,20-200ul,100-1000ul
10. Should have Safe zone filter lock provider
11. Should have Tip cone filter lock
12. Should have Easy calibration and maintence
13. Should have Micro pippete holders
14. Should have Capacity and Reproducibility as under:

		ACCURACY	REPRODUCIBILITY
I	0.5-10 ul	± 1%	1% - 0.5%
Ii	5-50 ul	± 1%	1% - 0.5%
Iii	20 - 200 ul	± 1%	1.5% - 1%
Iv	100 - 1000 ul	± 1%	0.5% - 0.4%

NOTE: The combination of Micropipettes in terms of set has been given from 0.5 ul to 1000 ul, which is indicative in nature. Any other combination to cover this volume may be considered.

15. Should have Comprehensive warranty for 2 years and 3 years AMC/CMC with rates after warranty
16. Should have Comprehensive training for lab staff and support services till familiarity with the system.
17. Should have Documentation Certificate of calibration and inspection from factory.
18. List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.

Item No. 26

MULTI-CHANNEL PIPETTE

1. Should have 8 channels for dispensing
2. Should have Comfortable and adjustable hand grip
3. Should have Consistency in quality
4. Should have Quick Click
5. Should have Separate tip ejector
6. Should have Ergonomic design
7. Should have Autoclavable tip cone
8. Should have Non Metallic internal Part
9. Should have Ajustables volume range from 20-200ul
10. Should be adjustable with all types of tip.
11. It should have pipette holders
12. Should have Comprehensive warranty as per bid.
13. Should have Comprehensive training for lab staff and support services till familiarity with the system.
14. Should have Documentation Certificate of calibration and inspection from factory.
15. List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.

Item No. 27

Electronic Analytical Balance

1. Electronic top loading balances with transparent case having following specifications:

Readability	0.1 mg
Capacity	200g
Repeatability	0.1mg
Linearity	+ -0.2mg
Stabilization time	<5 sec.
Adjustment weight (Int. wt.)	200g
Adjustment weight (Ex. Wt.)	500 mg,1gm,10gm,50gm,100gm,200gm

2. The balance should have functions of piece counting, percent weighing, formulation , dynamic weighing with automatic and manual start and' provision for data interface should comply with ISO/GLP with auto validation with ink jet printer.
3. Calibration: Fully automatic temperature .controlled internal calibration & balance should be capable to adjust itself.
4. Balance should have additional features as LCD Display
5. Should have vibration adapter for damps influence due to vibration and minor shocks
6. Should have built in instructions for its operation
7. To be operational on 220 to 240 V at 50 Hz.
8. Compatible UPS and voltage stabilizer should be part of configuration
9. Warranty as per bid.
10. Basic set of spares should be provided with the machine as stand by.
11. Equipments should be complete in all respect so that it can be started from day one.

Item No. 28

FULLY AUTOMATED BLOOD BANKING SYSTEM BASED ON COLUMN AGGLUTINATION TECHNOLOGY

1. The analyzer shall be capable to do all Immunohematology tests like grouping, phenotyping, antibody screening & Identification, cross-matching in Blood samples.
2. It shall have the facility of random and continuous loading of samples and reagents.
3. It shall have the through-put of about 30 – 60 tests per hour.
4. It shall have the Random access, Continuous sample analysis capabilities to take care of the emergency sample analysis too.
5. It shall have the access to samples during operation with the ability to add or remove the samples from the system.
6. The loading sample capacity minimum of about 30-40 samples at a time.
7. The reagent loading capacity shall be 10-25 reagents with the facility of Liquid level detection, automatic agitation of red cells .
8. It shall have the facility to read bar-coded reagents and samples .
9. It should be able to verify presence of serum/plasma before centrifugation.
10. It shall have the facility for the preparation of required amount and concentration of red cell suspensions automatically.
11. There should be availability of complete panel of ready to use cells for antibody screening and identification, including anti D prophylaxis panel with minimum shelf life of 30 days.
12. It shall have the facility for centrifugation of cassettes with the minimum capacity of 24 cassettes.
13. System should be able to detect & differentiate double population cases
14. All reagents to be supplied with the system, free of cost till the equipment is standardized and calibrated for its effective performance.
15. All consumables/reagents required for at least additional 5000 tests to be provided.

16. System should be able to provide backup of results.
17. All the rates for the consumables and reagents should be provided

It shall have the facility for both room temperature incubation as well as 37°C incubation of cassettes with the minimum capacity of 24 -48 cards.

18. It shall have the facility for auto reading of cassettes using CCD Camera along with the calibration facility.
19. It shall have on board QC package system to monitor the process and the Quality of the results obtained.
20. It shall have continuous process verification to ensure precise and accurate results.
21. It shall have Bi-directional interface, compatible to the LIS or HIS system.
22. The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%
23. The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
24. Power input to be 220-240VAC, 50Hz fitted with Indian plug
25. Voltage corrector/stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz) Resettable over current breaker shall be fitted for protection
26. UPS of suitable rating shall be supplied for minimum 1 hour backup for the entire system
27. Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
28. The system should be US FDA , CE, or BIS approved
29. Comprehensive warranty as per bid.
30. Comprehensive training for lab staff and support services till familiarity with the system.
31. Documentation Certificate of calibration and inspection from factory.
32. List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.

33. Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.
34. User/Technical/Maintenance manuals to be supplied in English.

Item No. 29

Portable Refrigerated Blood Transport Box

1. Structure should be completely in undeformable (UVA resistant) plastic material both inside and outside
2. Should operate on Mains/Car battery and have a Battery back up of at least 4-6hrs.
3. All the internal corners should be rounded to make easy any cleaning operation
4. Insulation should be high density (40 Kg/m3) foamed-in-place polyurethane, with an average thickness of 50mm.CFC-free.
5. Should be high thickness value, the refrigerators should maintain the internal temperature for long time (also when it is not connected to any electrical source
6. Handles should be 2 in no , retractable, allowing an easy handling of the portable refrigerator
7. Lid should be hinged, fully insulated, realized in plastic material both inside and outside. The lid should be fitted up with a perimetric rubber gasket, with a special locking device (granting a perfect seal)
8. Internal equipment should have open wire basket made in sheet steel white coated, to make easy the handling of the stored materials
9. Thermostat should be external, digital, electronic, grouping both the function of displaying the present temperature and adjusting the internal temperature
10. Cooling unit should be compounded by a hermetically sealed compressor and a (both included in the refrigerator structure)and a perimetric evaporator(roll-bond type) in the whole internal chamber. All the used components should be industrial grade granting the maximum reliability
11. Refrigerant should be R134a CFC-free
12. Refrigeration should be static granting the maximum temperature uniformity and stability inside of the cabinet should be able to store 30-40 bags and available in different sizes.
13. Temperature range: infinitely adjustable between +10 C to –20C
14. Voltages: both 12/24 V and 220-230V/1 phase /50 Hz
15. Connecting cables (included): for both the voltage (12/24V and 220-230V)

16. Capacity: 65 litres

17. Warranty for 2 years AMC/CMC for Three years

Item No. 30

Equipment Specifications for ULTRASONIC CLEANING SYSTEM (Multistage)

1 Description of Function	
1.1	Ultrasound cleaners can clean wherever the cleaning liquid can go and nearly perfect ultrasonic cleaning is achieved. It is particularly suitable for the cleaning of laboratory instruments and articles made of glass, plastic, or metal.
2 Operational Requirements	
2.1	System should have multistage cleaning system with provision of pre-cleaning, disinfection, ultrasonic chamber and rinsing chamber built in
3 Technical Specifications	
3.1	It should have drying heating facility
3.2	It should have facility to clean all type of glassware plastic ware and even stainless steel instruments
3.3	The tank and chamber should be made up of stainless steel
3.4	Should have following four stsges: Stage One - Ultrasonic/undersurface jet clean. Stage Two - Tap Water Rinse. Stage Three -Distilled Water Rinse. Stage Four - Hot Air Dryer
3.5	Digital timer control of approximately 60 minutes
3.6	Operating Ultrasonic frequency: 25-30 KHz and 35-40 KHz
3.7	Internal Tank Capacity: 18- 20 Litres
3.8	There should be digital temperature controller and thermostat cut off heater.
3.9	Should have buzzer for accurate temperature maintainance.
3.10	There should be hose pipes clamps connections provided free with installation, inlet water supply pipes from the tap to the unit and drainage pipes.
3.11	Drain in rear bottom.
3.12	Built in heater of 20 to 70 deg C
3.13	Digital temperature monitor
3.14	Variable temperature control/indication for ultrasonics and drying stages
3.15	Liquid level protection

3.16	To supply inset baskets made of SS, perforated for holding goods to be cleaned – 2 nos.		

4 System Configuration Accessories, spares and consumables

4.1	System as specified-		
4.2	SS Basket – 02		
4.3	All integrated accessories like Recirculating Pump and Filter Acou Lid Under surface jet for stages 1,2 & 3. Water recirculation systems etc should be included.		

5 Environmental factors

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

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

7.1	Comprehensive training for lab staff and support services till familiarity with the system.		
7.2	Comprehensive Warranty as per bid.		
7.3	Manufacturer/Supplier should have ISO certification for quality standards.		
7.4	Should be US FDA or CE or ISI approved product		

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied		
8.2	Certificate of calibration and inspection from factory.		
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. The job description of the hospital technician and company service engineer should be clearly spelt out		
8.5	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.		

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

CARDIOLOGY

Item No.31

PREMIUM END TOP OF THE LIVE PORTABLE 2D-ECHOCARDIOGRAPHY COLOUR DOPPLER SYSTEM.

The offered system should be top of the line platform on a worldwide basis.
It should be light weight easily portable machine (less than 7 Kgs) with proper bag and storage facility.
A separate Cart (of the same company) should be provided for mobility of the portable machine.
System should have extremely high resolution 2D Imaging, Colour Flow Imaging, M-mode, PW Doppler, CW Doppler, and Duplex modes.

System should have least 18,000 digital processed channels.

Should have advanced image processing algorithms to analyse between targets and artifacts so as to sharpen target anatomy and reduce speckle and artifacts for excellent image quality.

Should have flat panel high resolution display monitor minimum 15 inch.

Should have a dynamic range of 170 DB minimum.

Should have extended field of view imaging of structures, by continuously scanning and moving the probe over the area of interest.

Should have maximum colour Doppler Frame rate of ≥ 250 Hz should have an on-board workstation for storage and review of all exams i.e.2D Doppler, Loops etc.

Should have DICOM support to be able to connect to hospital network, Laser cameras etc.

Should have > 1 TB hard Disk capacity to store patient data into the hard drive.

Should be able to transfer images and clips to CD and DVD Media.

Should be offered with the following transducers without need for frequency selection:-

1. 1. Adult Echo Transducer: Transducer technology for audit probes should be clearly mentioned in technical bid. 1-5 Mhz

2. Paediatric Echo Transducer – Paediatric 3-8 Mhz

3. Tran esophageal probe 2-7 Mhz

System should be CE marked & US FDA approved.

It should have standard Electrical Safety Norms.

ACCESSORIES

Other accessories: Jelly Bottles (5 Nos.), Patient Examination Table, Doctor's chair, Patient Chair, curtains for changing room.

Guarantee: Comprehensive Guarantee as per Inq. Parts and labour. All software updates upto as per bid to be provided free.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings from the source, Electrical points of suitable ratings, water connection, water drainage, plumbing, air-conditioning & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs..

Item No. 32

DENTAL CHAIR (REGULAR)

1 **Description of Function**

1.1 Dental Chair Medium is the dental chair required for dental and surgical procedures.

2 **Operational Requirements**

2.1 Physiological dental chair operated by electricity

3 **Technical Specifications**

3.1. Dental unit should have latest overhead delivery system

3.2. It should have two 3 way syringes (tip autoclavable, with 6 spare tips) one on unit side and other on the assistant side.

3.3. It should have one high speed Air Rotor terminal with water control on coupling supplied with handpieces.

3.4. It should have one high speed fiber-optic air-rotor terminal with handpiece

3.5. One air motor terminal having straight and contra angle handpieces

3.6. It should have LED light cure unit on unit sides (Min. Intensity 800 mW/cm2 and wavelength range - 370 - 500 nm output)

3.7. It should have one in-built Piezon LED (fiber-optic) Ultrasonic Scaler (frequency 28-36 KHz) with 4 scaler tips and one set of perio-curette tips

3.8. It should have infection control system with non-retraction valves (Bio System/ equivalent)

3.9. All handpieces/terminals should be kept on Autoclavable pads. 6 spare autoclavable pads should be supplied

3.10. Arm of unit should be pneumatically locked

3.11. All air tubing of the delivery system can be disinfected internally after every dental procedure

3.12. Removable auxillary tray (stainless steel)

3.13. It should have latest foot operated LED/halogen Light (min 35,000 LUX)

3.14. It should have Rotatable Water System with removable spittoon

3.15. It should have Medium Vacuum Suction and High suction (Motorised Suction)

3.16. It should have following programmes –

- Two programmable working positions
- Spitting and last working position with light ON and OFF automatically
- Return to Zero position with light OFF automatically
- It should have option to Lock the movements of chair
- It should have emergency stop control**.**
- Programmable Bowl water and Cup filler water
- It should have LED based X-ray viewer

3.17. It should be provided with right arm (options for Fixed, Lateral 90 degree swivel available)

3.18. It should have multifunctional foot control base (fixed or mobile)
3.19. It should be provided with one doctor's stool and one assistant's stool with adjustable backrest tilt including an adjustable ring for foot rest.
3.20. Oil Free Air Compressor (Medical Grade) with Air moisture filter

4 **System Configuration Accessories, spares and consumables**
4.1 System as specified
4.2 All consumables required for installation and standardization of system to be given free of cost.
4.3 Provision for modular furniture with sink for dental operator 10feet x 2 feet or dimensions as required by the operator.

5 Environmental factors
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%
5.3 Complete installation of the system including water input and drainage system has to be installed

6 Power Supply
6.1 Power input to be 220-240VAC, 50Hz
6.2 Five KV Servo Voltage stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)

7 Standards, Safety and Training
7.1 Should be US FDA/ CE approved product
7.2 Manufacturer/Supplier should have ISO certification for quality standards.
7.3 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450.

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, handpieces, and accessories with their part number and costing
8.4 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.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 33

EQUIPMENT SPECIFICATIONS FOR DENTAL SCALER

1 Description of Function
1.1 Dental Scaler is required for removing the supragingival and subgingival calculus.
2 Operational Requirements
2.1 Microprocessor based system
3 Technical Specifications
3.1 Based on piezoelectric technology
3.2 Having torque tool for tightening of the tip
3.3 High power turbo mode and low power mode
3.4 Should have LED light in scaler handpiece
3.5 Automatic smart power feedback control
3.6 Minimum vibration frequency of 28-36 KHZ and
3.7 Ten tips for scaler, one endodontic kit and one set of perio-curette tips
3.8 Foot pedal
3.9 Separate control for water and tip vibration
3.10 Should be supplied with two autoclavable hand pieces.
3.11 It should have self contained tank of 300 ml capacity
4 System Configuration Accessories, spares and consumables
4.1 System as specified

5 Environmental factors
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
6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2 Servo Voltage stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)

7 Standards, Safety and Training
7.1 Should comply with Medical Device class II type BF, in conformity to the requisites of Directive 93/842/CEE for the SCALER unit
7.2 Should be US FDA/ CE approved product
7.3 Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
8 Documentation
8.1 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet
8.2User/Technical/Maintenance manuals to be supplied in English.
8.3 Certificate of calibration and inspection.
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

Item No. 34

DENTAL X-RAY

1 Description of Function

1.1 Dental x-ray machine is used for taking Intra Oral Periapical and Occlusal X-ray

2 Operational Requirements

2.1 High resolution RVG based on CCD/CMOS technology

3 Technical Specifications

3.1 Based on DC current
3.2 Tube voltage, selection: 60-65-70 kVp
3.3 Tube current 6 mA/ 8 mA
3.4 Focal spot 0.8 x 0.8 mm
3.5 Total filtration > 2 mm Al
3.6 Minimum range of exposure time range – 0.02 to 3.2 secs
3.7 Manufactured with International Safety standards for radiation leakage
3.8 Electronic selection of exposure time/radiation according to tooth number. It should be possible to select exposure time manually.

4 System Configuration Accessories, spares and consumables

4.1 X-ray unit should be supplied with lead apron, thyroid collar and gonadal sheath
4.2 Should be supplied with lead partition

5 Power Supply

5.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug
5.2 Servo Voltage stabilizer of appropriate ratings meeting ISI Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)

6 Standards, Safety and Training

6.1 Should be US FDA/ CE approved product
6.2 Manufacturer/ Supplier should have ISO certification for quality standards.
6.3 Electrical safety for dental x-ray unit conforms to standards for electrical safety IEC-60601 / IS-13450

7 Documentation

7.1 User/Technical/Maintenance manuals to be supplied in English.
7.2 List of important spare parts and accessories with their part number and costing
7.3 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.

INSTRUCTIONS:

1. Vendor will get approval for the site plan from AERB for installation of the equipment.
2. Any civil and electrical work required at the site for installation of machine is to be done by the vendor .

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings from the source, Electrical points of suitable ratings, water connection, water drainage, plumbing, air-conditioning & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs. Bidders who have approval / authorisation of AERB / BARC shall only be considered with documentary evidence. It shall be bidders responsibility to get the equipment installed and commissioned as per AERB / BARC guidelines and installed and commission on "Turn Key basis.

Item No. 35

DIGITAL PANORAMIC WITH CEPHALOMETRIC X-RAY

1 Description of Function

1.1 This equipment enables digital imaging of both panoramic and cephalometric x-rays

2 Operational Requirements

2.1 System with Panaromic as well as Cephalometric X-Ray is required with all the accessories.

2.2 Should cater to all types of patients including adult, pediatrics, standing, sitting and wheel chair patients.

3 Technical Specifications

3.1 Based on DC current
3.2 Focal spot is 0.4/0.5 mm according to IEC 336/1993 specifications
3.3 Inherent filtration : 2.5mm Al equivalent
3.4 Tube voltage min range 60 kV to 80 kV
3.5 Tube current min range 5 mA to 10 mA
3.6 Exposure time – Panoramic – 10-15 secs; Cephalometric – 0.5-20 secs
3.7 Pixel size – 96-99 µm
3.8 Image resolution – 5-9 lp/mm

4 System Configuration Accessories, spares and consumables

4.1 Standard Intel Quad core desktop with original windows software, 4 GB RAM, 500 GB hard disk, 20 inch TFT monitor, DVD-RW and suitable film printer

4.2 X-ray unit should be supplied with lead apron, thyroid collar and gonadal sheath

5 Power Supply

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

5.2 Five KV Servo Voltage stabilizer of appropriate ratings meeting ISI Specifications. (Input 160-260 V and output 220-240 V and 50 Hz)

6 Standards, Safety and Training

6.1 Should be US FDA/ CE approved product

6.2 Manufacturer/ Supplier should have ISO certification for quality standards.

6.3 Electrical safety for dental x-ray unit conforms to standards for electrical safety IEC-60601 / IS-13450

7 Documentation

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

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

7.3 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.

INSTRUCTIONS:

1. Vendor will get approval for the site plan from AERB for installation of the equipment.

2.Any civil and electrical work required at the site for installation of machine is to be done by the vendor.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings from the source, Electrical points of suitable ratings, water connection, water drainage, plumbing, air-conditioning & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs. Bidders who have approval / authorisation of AERB / BARC shall only be considered with documentary evidence. It shall be bidders responsibility to get the equipment installed and commissioned as per AERB / BARC guidelines and installed and commission on "Turn Key basis.

Item No. 36

AUTOCLAVE

1 Description of Function

1.1 Autoclaves are required for sterilizing instruments in high temperature and high pressure steam.

2 Operational Requirements

2.1 Autoclave should be table top and front loading with fully automatic microprocessor based control

3 Technical Specifications

3.1 The autoclave should provide sterilization at 121^{o} C and 134^{o} C for both wrapped and unwrapped tools and also a flash cycle for rapid sterilization.

3.2 The autoclave should be equipped with a powerful vacuum pump to eject air pockets from the chamber at the beginning and at the end of cycle (Pre-vacuum and Post vacuum)

3.3 Water purification unit (based on reverse osmosis principle) should be supplied along with the autoclave, and it should be possible to connect the water purification unit directly to autoclave for continuous supply of high quality demineralized water.

3.4 It should have minimum four sterilization programs and two test program. Programs should be monitored by microprocessor.

3.5 Chamber volume 22 -25 liters.

3.6 Loading can be min. 4 Kg instrument/ 1 Kg textile.

3.7 It should be class B autoclave so that hollow bodied instruments, handpieces, and turbines can be fully autoclaved.

4 Environmental factors

4.1 Shall meet IEC-60601-1-2:2001(Or Equivalent BIS)/ or EN61010-1-2 General Requirements of Safety for Electromagnetic Compatibility or should comply with 89/366/EEC; EMC-directive.

5 Power Supply

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

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

6 Standards, Safety and Training

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

6.2 Should be US FDA/ CE approved product

6.3 Manufacturer/ Supplier should have ISO certification for quality standards.

7 Documentation

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

7.2 List of important spares and accessories with their part number and costing.

7.3 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.

Item No. 37

INTRA ORAL CAMERA

1 Description of Function

1.1 Intra-oral camera is required for documenting video and still images of intra-oral procedures

2 Operational Requirements

2.1 High resolution Intra-Oral camera based on CCD technology

3 Technical Specifications

3.1. Should give true image (not a mirror image)
3.2. Light source integrated into handpiece
3.3. Sealed design and hygienic material for proper disinfection
3.4. The image live/freeze/save functions should be initiated by the station foot control
3.5. Ergonomical shape of handle
3.6. True imaging angle of 530 approx
3.7. Viewing orientation - 90o approx
3.8. Magnification – minimum 40X
3.9. Resolution – minimum 470 lines
3.10. Focal range – min. 6mm to infinity
3.11. Light source – four output halogen, 32,000 LUX at 10 mm
3.12. It should be supplied along with Desktop computer 20 inch screen, Intel Pentium Quad Core, 500 GB HDD, RAM 4 GB, DVD-RW, latest genuine windows version software and color laserjet printer.

4 Power Supply

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

5 Standards, Safety and Training

5.1 Should be US FDA/ CE approved product
5.2 Manufacturer/ Supplier should have ISO certification for quality standards.

6. Documentation

6.1 User/Technical/Maintenance manuals to be supplied in English.
6.2 List of important spare parts and accessories with their part number and costing.
6.3 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet
6.4 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.

ENT

Item No. 38

OESOPHAGOSCOPE

S.N	Name with specification	Quantity
1	Universal Oesophagoscope with Distal or Proximal illumination Adult 250mm length 12x8 mm diameter	1
2	Universal Oesophagoscope with Distal or Proximal illumination Adult 300mm length 14x10 mm diameter	1
3	Universal Oesophagoscope with Distal or Proximal illumination Adult 300mm length 16x12 mm diameter	1
4	Universal Oesophagoscope with Distal or Proximal illumination Adult 500mm length 12x8 mm diameter	1
5	Illumination system, cap, magnifier and telescope sealing cap for adult scopes	One set
6	Universal Oesophagoscope with Distal or Proximal illumination Child 270mm length 5.5 mm diameter	1
7	Illumination system, cap, magnifier and telescope sealing cap for child scope	One set
8	Optical forceps for Oesophagoscope Alligator Foreign body to fit in 300 mm Oesophagoscope	1
9	Optical forceps for Oesophagoscope biopsy forcep to fit in 300 mm Oesophagoscope	1
10	Telescope 0 degree wide angle to fit in above optical Biopsy forceps	1
11	Jackson esophageal forcep standard shaft, deep serrated upper moving jaw, 400mm length	2
12	Foreign body forcep for cutting of denture hooks with good cutting power 450mm length	2
13	Foreign body forcep alligator jaw with deep serration 350mm length 2.0mm shaft diameter	2
14	Peanut grasping jaw 350mm length 2.0mm shaft diameter	2
15	Cut biopsy forcep 350mm length 2.0mm shaft diameter	2
16	Rotation Forcep for hard Foreign bodies 450mm length	2
17	Aspiration tubes rigid 350mm length 2.5mm diameter	4
18	Aspiration tubes rigid 500 mm length 4.0mm diameter	2
19	Cotton carrier working length 350mm	2
20	Cotton carrier working length 350mm	1
21	Fiber optic cable 2.5mm Diameter 1.80 meter length	2
22	Cold light source 250 Watt	1

MICROBIOLOGY

Item No. 39

BINOCULAR MICROSCOPE COMPOUND

1. Optical system should be infinity corrected.

2. System complete with illumination system is required.

3. Body: Binocular, sturdy, stable base body with focus adjustment controls.

4. Eye piece: Paired, high quality, (the image of the object as seen through the binocular eyepiece should be well defined centrally in at least 2/3 field of view), achromatic, wide field, 10x with inbuilt pointer. The eyepiece should be aplanatic and have a minimum field number of 18. Diopter adjustment must be present on one/ both eye pieces or on the eye piece tube.

5. Objective: Three objectives10x,40x,100x,10x and 40x objectives should have numerical apertures of 0.25 and 0.65 respectively and should be of spring loaded type or otherwise.100x should have numerical aperture of 1.25 and should be of oil immersion and spring loaded type. Suitable prominent marking should be provided on100x for easy identification. Unbreakable containers to be provided for storing the objectives. All objectives should be wide field, achromatic and parafocal. Making for the Objectives :Each objective should be engraved with the following information's :-

- Name of the manufacturer
- Magnification and numerical aperture, for example,10x/0.25
- 100x objective should be engraved with the word 'Oil' in changing from one objective to another or reintroducing the same objective by rotation of the nosepiece, the object at the center of the field should not appear displaced by more than 0.02 mm in the object plane in any direction.

6. Nose piece: Revolving nose piece to accommodate a minimum of three objectives with click stops. It should be provided with ribbed grip for easy rotation mounted on a precision ball bearing mechanism for smooth and accurate alignment. Extra ports if any should be fitted with dust proof metallic/ebonite caps.

7. Stage Uniformly horizontal, mechanical stage having dimensions of length 140 mm (+/-20mm) with fine vermier graduations (minimum reading accuracy of 0.1 mm). the stage should be provided with spring loaded slide holder for exact positioning of specimen/ slide. It should be designed with convenient sub-stage vertical coaxial adjustment for slide manipulation. The stage should have ball-bearing arrangement to allow smooth travel in transverse directions i.e. 80 mm (+/-5mm) and front to back direction, 50mm (+/-5mm).
8. Sub-stage condenser: Abbe-type condenser, numerical aperture (N.A.) 1.25 focusable with rack and pinion arrangement incorporating an aspherical lens and an iris-diaphragm. The condenser should have a filter holder and removable/ swing in/ out blue filter (suitable for bright field Microscopy).
9. Sub-stage illuminator:
    1. The system should have a build-in variable light source (Illuminator). This light

source should have a 20 W, 6 V Halogen lamp. The circuitry for the light source should include a constant voltage supply. The system should be provided with a step down transformer and an on-off switch and intensity control. The lamp should

be provided with a lamp socket which has the facility for easy replacement of the bulb,

2. Power Supply
   a. Voltage220V,50HzAC
   b. Should have one on-off power switch, 3 core power cord with a 3 point male plug.

3. The system should have an inbuilt protective/ safety device to withstand fluctuations of voltage from 140 V to 280 V

4. A plano-concave mirror in fork mounting should be supplied which would be attachable to the base for field use. (Where power is not available).

5. The fuse for the halogen lamp should be easily accessible to the operator

6. The Illuminator should have a build-in field diaphragm for Kohler illumination.

10. Eye piece tubes: Binocular eye piece tubes, inclined at 45 degrees, rotatable through an angle of 360 degrees, having inter-pupillary distance range of 54-74 mm or wider, covering the above mentioned range.

11. Focusing knob: Co-axial coarse and fine focusing knobs capable of smooth fine focusing movement over the full range of coarse travel. The fine focusing movement should have sensitivity of two microns or less (finer) over the entire coarse focusing stop safety arrangement should be provided.

12. General 1.All optical parts including objectives, eye pieces and prisms should have anti-reflective coating which also gives anti-fungal property.
2.All metallic parts should be corrosion-proof, acid-proof and stain-proof
3.Working manual should be provided with each microscope
4.A bottle of at least 25 ml immersion oil, a roll of lens tissue paper and lens cleaning solution (100 ml) should be provided with each microscope.
5.One no.of anti static cleaning brush should be provided with each Microscope for cleaning purpose.

13. Microscope should be supplied with spare parts as under:
•100x oil immersion objective (as per the specifications given under B3) – one.
•Halogen bulb,(6volts,20w) – 6Nos.
- Fuses – 6 Nos.

14. All consumables including microscope cover required for installation and standardization of system to be given free of cost.

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

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

17. Suitable voltage corrector/stabilizer

18. Should be US FDA or CE or ISI approved product

19. Two years warranty, 3 yrs comprehensive AMC should be available with service centers in close proximity.

20. User/Technical/Maintenance manuals to be supplied.

21. Certificate of calibration and inspection from factory.

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

Item No. 40

MICROSCOPE WITH PHOTOGRAPHIC ATTACHMENT / DIGITAL CAMERA

Item		**Microscope with digital camera**
Microscope frame	Optical system	US12 optical system
	Focus	Vertical stage movement: 25mm stage stroke with coarse adjustment limit stopper, Torque adjustment for coarse adjustment knobs, stage mounting position variable, high sensitivity fine focusing knob (minimum adjustment gradations: 1 μm).
	Illuminator	Built-in Koehler for transmitted light 12V100W halogen tube (pre-centered), light preset switch, and light intensity LED indicator, built-in filters.
Revolving nosepiece		Interchangeable reversed quintuple/sexuple/septuple nosepiece.
Observation tube	Wide field	• Wide field binocular, inclined 30^0C • Wide field tilting binoculars 5^0-35^0 • Wide-field trinocular, inclined 30^0 • Wide field ergo binocular, inclined 0^0 – 25^0.
	Super wide field	• Super wide field trinocular,, inclined 24^0 .
Stage	Ceramic-coated coaxial stage with left or right hand low drive control: with rotating mechanism and torque adjustment mechanism, optional rubber grips available.	
Condenser	• Abbe (N A. 1.1), for 4X – 100X • Swing out Achromatic (N A. 0.9), for 1.25X- 100X (swing-out: 1.25X-4X) • Achromatic Aplanatic (N A. 1.4), for 10X – 100X • Phase contrast, dark field (N.A. 1.1), (phase contrast: for 10X – 100X, dark field: for 10X-100X. • Universal (N.A. 1.4/0.9), for 2X – 100X • Dark field dry (N. A. 0.8 – 0.92), for 10X -1 • Dark field oil (N.A. 1.20 – 1.40) for 10X – 100X for 10X -1 • Ultra low (N.A. 0.16) for 1.25X – 4X.	
Camera Adapters	• Photo system • Video system • Microscope Digital Camera System & DP-BSW/software.	

SPECIFICATION OF DIGITAL CAMERA FOR FIELD PHOTOGRAPHY.

1. Effective 5.1 Mega Pixel
2. 12xOptical Zoom (24x Precision Digital Zoom)
3. Super Steady shot (Optical Image Stabilizer)
4. Large 6.35 cms LCD (115K Dots)
5. 32 MB internal Memory
6. AF Illuminator.

Documents:

- Warranty as per bid.
- Should be US FDA/ CE/ ISI or other equivalent certificate approved product
- User/Technical/Maintenance manuals to be supplied

Item No. 41

AUTOCLAVE (VERTICAL)

- Description of Function: Steam Sterilizers or Autoclaves are required to sterilize objects under high temperature and pressured steam.
- Operational Requirements: Suitable for hospital dressings, linen, surgical instruments, glassware, culture media and laboratory ware etc.
- Technical Specifications:-
  - Single door high pressure steam sterilizer with double/triple walled, steam jacket and separate boiler
  - Material of construction:
    a. Sterilizer chamber SS 316
    b. Door SS 316
    c. Jacket MS
    d. Loading carriage SS 316
    e. Transfer trolley: MS, painted
    f. Door Gasket: Silicon or better
    g. Insulation: fiber glass resin bonded wool or better
    h. Insulation cover: SS sheets
  - Chamber capacity as per requirement
  - Operating temperature 121^0C - 138^0C pressure 1.1 to 2.2 kg/ cm^2 of steam pressure
  - Sterilizer should be provided with steam generator
  - Spring loaded safety valves and automatic vacuum breaker for jacket
  - Removable plug screen for chamber drain
  - SS baffle for even steam distribution in the chamber
  - Safety valve protection against poor pressure.
  - Safety lock for door :pressure lock safety device
  - Low water off
- System Configuration Accessories, spares and consumables:
  - System as specified-
  - Should provide available spares and consumables for at least 10 years
  - Should provide a sufficient quality of consumable along with the equipment
- Environmental factors: Shall meet IEC-60601-1-2 :200(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
- Power Supply: Power input to be 220-240VAC, 50Hz,/440 V 3 Phase as appropriate and fitted with plug compatible with local sockets

- Standards and Safety:
  - Comprehensive onsite training for lab staff and support services till familiar with the system.
  - Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450 (BIS)
  - Should be ISI /CE or equivalent standard approved product.

- Documentation:
  - User/Technical/Maintenance manuals to be supplied
  - Certificate of calibration and inspection from factory.
  - List of important spare parts and accessories with their part number and costing.
  - 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
  - Should submit a report of quality checks using biological indicator.

    NOTE:

  - Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 42

AUTOCLAVE (FULLY AUTOMATIC, HORIZONTAL)

1. Horizontal rectangular high speed fully automatic steam sterilizer with capacity of 400-500 liters and dimensions of 600 – 700 X 600 – 700 X 1200 -1300 mm approximate. (or as per user demand).
2. Normal working pressure should be 1.2 / 2.1 Kg/cm square.
3. Normal working temperature should be 121 degree Celsius / 134 degree Celsius.
4. Working on three phases for 440 Volts.
5. Machine should be made of good quality stainless steel.
6. Machine should be provided with fully automatic door made of stainless steel.
7. The chamber should be of good quality ISI stainless steel covered with glass wool insulation.
8. Safety valve protection against poor pressure.
9. Touch screen digital display at front panel to show the temperature of chamber, cycle number, batch number, time and date, alarm indicator, error code.
10. Should have powerful cooling system that does not need to be connected to water source.
11. Computerized recording device with printer should be provided that will automatically and continuously monitor and record dates, times of day, load, operating parameters.
12. The unit should be provided with microprocessor based control panel.
13. Warning and error messages by microprocessor.
14. The unit should have indicator for maximum and minimum level of water.
15. Thermal fuse protection against overheating and against non permissible operation without water.
16. Safe, comfortable and easy to use.
17. Loading carriage of stainless steel with two numbers perforated, adjustable & removable shelves with suitable M.S. trolley moving on casters.
18. Carriage should have two stainless steel detachable arms for protection to load on three sides.
19. Trolley should have three locks one for locking carriage with trolley & second for locking trolley with sterilizer & third for trolley wheels.

20. The machine should confirm to CE/ISO/TUB/UL or equivalent standards of equivalent national or international standards. Certificate should be provided.
21. Installation free of cost with satisfactory biological indicator report.
22. Warranty as per bid.
23. Service centre should be located nearby.
24. User / Technical / maintenance manuals in English should be provided.
25. List of important spare parts and accessories with their parts number and costing.
26. List of user & performance report of the quoted model should be provided from Government hospitals /institute of repute.
27. Attach original manufacturer's product catalogue and specification sheet. Photocopy/ computer print will not be accepted. All technical data to be supported with original product data sheet.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 43

ULTRASONIC CLEANING SYSTEM (MULTISTAGE).

- System should have multistage cleaning system with provision of pre-cleaning, disinfection, ultrasonic chamber and rinsing chamber built in
- It should have drying heating facility
- It should have facility to clean all type of glassware plastic ware and even stainless steel instruments
- The tank and chamber should be made up of stainless steel
- Digital timer control of approximately 60 minutes
- Operating Ultrasonic frequency: 25-30 KHz and 35-40 KHz
- Internal Tank Capacity as per requirement.
- There should be digital temperature controller and thermostat cut off heater.
- Should have buzzer for accurate temperature maintenance.
- There should be hose pipes clamps connections provided free with installation, inlet water supply pipes from the tap to the unit and drainage pipes.
- Drain in rear bottom.
- Heater should be incorporated in the system in the chamber like rinsing, ultrasonic and drying.
- Dry run protection device and prevention against electric shock.
- Digital temperature monitor
- Variable temperature control/indication for ultrasonics and drying stages
- Liquid level protection
- To supply inset baskets made of SS, perforated for holding goods to be cleaned – 2 nos.SS Basket – 02.
- All integrated accessories like Recalculating Pump and Filter Acou Lid Under surface jet for stages 1,2 & 3. Water recirculation systems etc should be included.

.

- The unit shall be capable of operating continuously in ambient temperature of 10 -40^{0}C and relative humidity of 15-90%
- Power input to be 220-240VAC, 50Hz fitted with Indian plug
- Suitable voltage corrector/stabilizer

- Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.
- Comprehensive training for lab staff and support services till familiarity with the system.
- Warranty as per bid.
- Manufacturer/Supplier should have ISO certification for quality standards.
- Should be US FDA or CE or ISI approved product
- User/Technical/Maintenance manuals to be supplied
- Certificate of calibration and inspection from factory.
- List of important spare parts and accessories with their part number and costing.
- 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
- List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 44

CO_2 INCUBATOR

Technical Specifications:-

- Steam jacket with internal capacity: 120 L (Approx) or as per user demand
- Minimum of 4 adjustable shelves (or as per user requirement) with separate air tight doors should be available.
- Interior chamber: Stainless steel for easy cleaning and decontamination
- Stable temperature control, excellent uniformity, and rapid recovery with no overshoot. Fan less convection circulation to provide chamber homogeneity, eliminate vibration & reduce sample evaporation.
- HEPA Filters (99.98% efficient)at the inlet to minimize contamination.
- Timer: 1 min. to 100 hours
- Temperature range: +5° C to 80°C
- Temp Accuracy +/-0.5^{0}C of required temp, with inbuilt Temperature Sensor.
- Audiovisual Alarm to Indicate when temperature deviates more than 0.5°C from set point, and when program or time has finished. Alarm may be muted.
- There should be a Membrane Keypad with LCD/LED to set and display operating parameters, current status, running time and alarm conditions for time and temperature.
- Internal glass door for the observation
- CO_2 Range- 0-20%; CO_2 Accuracy: +/- 0.5%; CO_2 Inlet pressure 1.5 bars (app) and fast recovery after opening door.
- Compensation: Temperature compensation @ 0.5 deg C / min and CO_2 Compensation up to 5%+/-0.5% in 5 minutes.
- High Humidity Chamber to achieve 95% RH, minimizing sample evaporation. Independent door heater to eliminate condensation on inner glass surfaces should be available.
- 72-Hour Data Storage for CO_2 concentration, temperature, alarms and door openings should be a automatically recorded for on-screen display.
- Data output for data acquisition and printing.
- PC Connectivity through RS232C
- Communication protocols HL-7 for Networked environments to HIS
- Interior lighting facility, insulated door fitted with heavy hinges handles locking, mechanical door lock.
- Low water alarm/ indication
- On castors for easy movements

- System Configuration Accessories, spares and consumables:
  - System as specified-
  - CO_2 cylinders 2 nos. (capacity at least 30 kg) with regular (at least one) compatible to machine part

- Environmental factors:

  - The unit shall be capable of operating continuously in ambient temperature of 10 -45^{0}C and relative humidity of 15-90%.

- Power Supply:-

  - Power input to be 220-240VAC, 50Hz fitted with plug, compatible with local electrical socket
  - Resettable overcurrent breaker shall be fitted for protection
  - Suitable voltage corrector/stabilizer
  - Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.
- Standards and Safety:-
  - Should be compliant to ISO 13485/ISO 9001 quality systems or equivalent
  - Should be compliant with IEC 61010-1:covering safety requirements for electrical equipment for measurement control and laboratory use.
  - Should be US FDA or CE or ISI approved product
  - Attach original manufacturer's product catalogue and specification sheet. Photocopy/ computer print will not be accepted. All technical data to be supported with original product data sheet. Please quote page number on compliance sheet as well as on technical bid corresponding to technical specifications.
  - Comprehensive onsite training for lab staff and support services till familiarity with the system.
- Documentation:

  - Certificate of calibration and inspection from factory.
  - List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
  - List of important spare parts and accessories with their part number and costing.
  - User/Technical/Maintenance manuals to be supplied
  - 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.
  - Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue.

    NOTE:

    Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 45

BOD INCUBATOR

Technical Specifications:-

- Double walled construction, inner chamber stain less steel, inner glass/ transparent door
- Facility for adjustable shelves to convenient heights, 10 removable shelves of stainless steel/ anodized aluminum to be supplied.
- Interior lighting facility, insulated door fitted with heavy hinges handles locking, mechanical door lock.
- Temperature range 0° to 80°C with accuracy 0.5°C high quality, environment friendly refrigerant.
- Independent temperature measuring through PT 100 sensor with indicator LCD display
- Recovery time short, precise regulation of temperature and acoustic alarm.
- Digital safety thermostat (class 3)
- Adjustable ventilation rate 10 – 100% thin form air circulation.
- Size of inner chamber approximately 50x60x50 cm. (or as per user requirement).

- System Configuration Accessories, spares and consumables:

  - System as specified.
  - All consumables required for installation and standardization of system to be given free of cost.

- Environmental factors

  - The unit shall be capable of operating continuously ambient temperature of 10 -45°C and relative humidity of 15-95%.

- Power Supply:-

  - Power input to be 220-240VAC, 50Hz fitted with plug compatible with local electrical socket.
  - Resettable over current breaker shall be fitted for protection
  - Suitable Stabilizer/CVT
  - Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.

- Standards and Safety:-

  - Comprehensive onsite training for lab staff and support services till familiarity with the system.
  - Two years warranty, 3 yrs comprehensive CMC should be available with service centers in close proximity.
  - Should be US FDA or CE approved or ISI marked / equivalent standard product.

- Should be compliant to ISO 13485:/ ISO 9001Quality systems or equivalent.

- Documentation

  - Certificate of calibration and inspection from factory.
  - User/Technical/Maintenance manuals to be supplied
  - 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
  - List of important spare parts and accessories with their part number and costing.
  - List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
  - Attach original manufacturer's product catalogue and specification sheet. Photocopy/ computer print will not be accepted.
  - All technical data to be supported with original product data sheet. Please quote page number on compliance sheet as well as on technical bid corresponding to technical specifications.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 46

BIOSAFETY CABINET

1. The system should be microprocessor based. The microprocessor must display the inflow and down flow air velocities in real time on an LED display to ensure the user knows whether or not the cabinet is working under safe operating conditions.
2. Motor must automatically adjust the air flow speed to ensure continuous safe working condition. Air flow shall be as per requirements of Biosafety regulations in respect of at least BSC II A level cabinet.
3. The cabinet noise level must be less than 60 decibel.
4. Dimensions (Cabinet Size): 4 to 6 feet. The interior of the cabinet shall be of stainless steel or equivalent material and must be smooth to ensure no risk of cuts to the users.
5. Efficiency of HEPA filter should be almost 99%
6. In order to ensure consistent and reliable down flow velocity across the supply HEPA filter over the life of the cabinet, the cabinet must use a pressure sensor (rather than anemometer) to detect pressure drop across the supply filter, rather than in just one point across the down flow. The pressure sensor must be encased in order to protect the sensor form temperature, humidity and other environmental phenomena that can impact the sensor's performance.
7. Fluorescent lamps for lighting of the interior of the cabinet. Front of the cabinet preferably be angled to help minimize glair.
8. A provision for UV light to disinfect the interior of the cabinet. UV light must be programmable to allow for specific exposure time from 0 to 24 hrs. Automatic UV switch 'OFF' on opening of front window. The front window should be made of laminated safety glass to prot4ct against leakage of UV rays and to ensure containment of potential hazardous material.
9. Safety alarm / safety display for :
   - Low air velocity
   - Faulty exhaust fan etc.
10. Power input to be 220-240 v AC, 50 Hz fitted with Indian plug.
11. CE / ISI certified or equivalent standards of repute.
12. Movable stands
13. Warranty as per bid.

14. Calibration certificate shall be provided at the time of installation in respect of all the parameters that require calibration.
15. Comprehensive training for lab staff and support services till familiarity with the system.
16. Attach original manufacturer's product catalogue and specification sheet in English.
17. Satisfactory working of quoted model from Govt. installation of repute preferably from Delhi.
18. List of important spare parts and accessories with their part number and costing.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 47

AUTOMATIC AIR SAMPLER

- The High Volume Air Sampler utilize a precise and versatile, venture sampling system feature electronic flow control, and meets the most recent international methods for atmospheric particulate matter measurement.
- Should have the configurations: Total Suspended Particulates (TSP), PM10 and PM205.
- The instrument should have a speed controlled brushels blower for accurate, quiet operation and 2 filter holders for easy exchange in the field.
- Should have an integrated real time clock, wide graphic display and dedicated keypad allow for user friendly sample programming. The equipment should have the selection from automatic 3 and 6 day runs or creation their own program selectable from 1 min to 168 hours.
- The equipment should be microprocessor controlled system for measurement of ambient and orifice flow temperatures, ambient and venture pressures for true mass or volumetric flow standardized with selectable reference temperature.
- Measured parameters should be logged every five seconds and recorded as five minute averages for the 24 hours run period. Run time, averages flow and standard deviation are just some of the obtainable results from the Flow Choice allowing the user to validate the sample run. Data is accessible on the display should able to downloaded to a PC via Modem (optional).
- The Equipment should have:
  - TSP, PM10 or PM2.5 Configurations
  - Easy Programming – Automatic 3 or 6 day runs or user selectable programs.
  - Quality Assurance System – Flow rate, total volume, temperature and pressure are logged and data is available for download to your PC.
  - Brushless Blower – Provides a accurate flow and quiet operation.
  - Remote Control via Modem (optional).
- Measured parameters:
  - Flow rate (standard and actual condition)
  - Total volume (standard and actual condition)
  - Ambient temperature
  - Ambient pressure
  - Pressure drop on the filter
- Conditions should be measured every 5 seconds and condensed to 5 minute log files.
- Data Memory: More than 30 sampling reports should be saved, and should be accessible through the display or by download to a PC via RS232 or modem (optional).
- Electronic sampling flow rate should be controlled at standard or actual condition.
- Sample time programming: Resolution 1 minute, selectable from 1 min. to 168h. Automatic 3 or 6 day runs.
- There should be provision of retrofitted light graphic display, dedicated keypad, real time clock and date.
- The machine should have brushless blower which should control the speed to limit noise and provide extremely accurate flow control.
- Flow Range: 1000 – 1400 L/min
- Flow Stability: ± 1% of set flow rate
- Power Requirements: 220-240 Vac, 50 Hz, 15amp.

- Allowable environmental temperature operating range: 0-50^{0}C
- Dimensions 62cm x 43cm x 110cm (W x D x H) for TSP unit.(or as per user requirement).
- Detachable base: Inlet head should be easily attached on site.
- Should have dual filter cassettes to allow rotating of cartridge with filter changes in lab
- Warranty as per bid.
- Power Requirements: 230 – 240 V
- Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet

- **Accessories:**
  - Ambient Gas & Particulate Monitors
  - Meteorological Equipment
  - IH and IAQ Equipment
  - Reach-In and Walk-In Equipment Shelters
  - Process Stack Gas, Particulate & Velocity Systems
  - System Design, Installation & Commissioning

- **Optional accessories:**
  - Calibration Kit Including: Orifice plate, slack tube manometer and carry case
  - Remote control via Modem GSM
  - Muffler for further noise reduction
  - Filter Papers (200mm x 250mm)
  - Calibration Contracts (conducted by qualified technician)

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 48 - HOT AIR OVEN

- Microprocessor based digitally controlled equipment suitable for daily usage.
- Should have double walled construction, special high quality insulated steel.
- Facility for adjustable shelves, 10 removable shelves to be provided.
- Size of inner chamber approx 55x55x70 cm (or as per user demand) with internal lighting facility
- Insulated door fitted with heavy hinges, mechanical door lock.
- Temperature range 30-250^{o}C, digitally temperature setting accuracy
- Separate PT 100 sensor and display for temperature (LCD).
- Forced uniform air circulation, Digital safety thermostat.
- Delayed start and stop function, high quality heating element
- Supplied with cord & plug, operate at 220V/50 Hz AC supply
- Training of laboratory staff for the purchased equipment
  Warranty as per bid.
- Availability of spares / disposables for at least 10 years.
- All consumables required for installation and standardization of system should be provided free of cost
- List of users and Satisfactory Report of quoted model from reputed institute / hospital
- Should have all the accessories required for the functioning of the equipment.
- CE / ISI mark or other equivalent quality certification.
- All electrical peripherals required for smooth functioning e.g. voltage stabilizer provided with the equipment
- There should be provision for demonstration before final approval of equipment
- Service centre should be closed proximity.
- Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet
  NOTE:
- Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 49

SEROLOGICAL WATER BATH

- Temperature range from ambient temperature 0° to 100°C.
- Thermostatic control with an accuracy of plus minus 0.5°C
- Double walled inside stainless steel and outside mild steel sheet painted in epoxy powder coating.
- Bath consist two pilot lamp, temperature control knob and ON/OFF switch to work on 220/230 volts AC supplied with or without stirring arrangement without racks and thermometer.
- Lid of water bath is made of stainless steel 304 Qlty.

	L	M	D		
SBS-1	300mm	250mm	175mm	Suitable for 2 racks	14 Ltrs

(Or as per user requirement)

- Should be US FDA or CE / ISI or other equivalent approved.
- Audible warning safety signals should be there for high/low temperature warnings, and dry running protection.
- Instrument should have lift up bath cover.
- Carrier racks should be given for flasks and test tubes racks.
- A cock should be provided to facilitate draining of bath contents.
- Water bath protective media should be there to prevent contamination and formation of algae.
- Heating capacity - 2 KW.
- Training of laboratory staff for the purchased equipment
- Warranty as per bid.
- Availability of spares/ disposables for at least 10 years.
- All consumable required for installation and standardization of system to be given free of cost.
- List of users and satisfactory report of quoted model from reputed institute preferably Government institute/ hospitals.
- Should have all the accessories required for the functioning of the equipment.
- Equipment should be ISI certified or equivalent standard of repute.
- It should be ISO 9001:2000 or other equivalent quality certification.
- All electrical peripherals required for smooth functioning e.g. voltage stabilizer should be provided with the equipment.
- There should be provision for demonstration before final approval of equipment.
- Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet

Item No. 50

SHAKING WATER BATH

- Should be based on advanced microprocessor technology with temperature control.
- Operation through key pad.
- Bath tanks and all parts in contract with the bath liquid should be made up of high grade stainless steel.
- Filling volume should be around 20 liters. (Or as per user requirements).9
- Working temperature range- room temperature to 90° C.
- There should be a multiplay (LED) with actual value, set point, high/low temperature, for shaking frequency and times with display resolution of 0.1° C.
- Temperature stability should be ± 0.2° C.
- Temperature uniformity in the bath should be ± 0.05° C.
- Should have provision to adjust shaking frequency up to 200 RPM.
- Audible warning safety signals should be there for high/low temperature warnings, and dry running protection.
- Instrument should have lift up bath cover.
- Carrier racks should be given for flasks and test tubes racks.
- A cock should be provided to facilitate draining of bath contents.
- Water bath protective media should be there to prevent contamination and formation of algae.
- Heating capacity - 2 KW.
- Training of laboratory staff for the purchased equipment
- Warranty as per bid document.
- Availability of spares/ disposables for at least 10 years.
- All consumable required for installation and standardization of system to be given free of cost.
- List of users and satisfactory report of quoted model from reputed institute preferably Government institute/ hospitals.
- Should have all the accessories required for the functioning of the equipment.
- Equipment should be US FDA / CE or equivalent standard of repute.
- It should be ISO 9001:2000 or other equivalent quality certification.
- All electrical peripherals required for smooth functioning e.g. voltage stabilizer should be provided with the equipment.
- There should be provision for demonstration before final approval of equipment.
- Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet

Item No. 51

ELECTRONIC BALANCE (0.001 GM – 500 GM)

- Digitally operated
- High contrast, large LCD display for easy viewing.
- Automatic external calibration
- Conforms GLP/GMP and ISO 9001 standard.
- Various weighing units like gm, mg etc should be provided.
- User selectable stability.
- Readability : 0.001 gm
- Linearity : 0.002 gm
- Pan size : > 80 mm diameter or as per user requirement.
- Response time : 2-3 sec
- Power back up should be provided / UPS with maintenance free batteries.
- Data acquisition and storage system.
- Should have printer facility if possible.

Item No. 52

TABLE TOP REFRIGERATED CENTRIFUGE

Table Top Refrigerated Centrifuge

(SPECIFICATION)

Sl. No.	Description
1.	A microprocessor controlled refrigerated table top micro centrifuge.
2.	It should have a maximum speed of at least 15,000 rpm or more.
3.	It should develop a RCF of at least 21,000 x g or more.
4.	It should be able to maintain temperatures ranging between -20^{0}C to + 40^0 C, while stand still and during run.
5.	It should have a working speed range at least between 200 – 15,000 rpm or better.
6.	It should have a continuous run time range at least between 10 sec. – 99th 59 min or better.
7.	It should have maintenance free induction drive.
8.	It should have a large LCD display for RPM, RCF, Temperature, Time & acceleration / deceleration.
9.	It should have a motor driven lid lick.
10.	It should have active imbalance detection and cut off.
11.	It should have a foil key board.
12.	It should have permanent indication for pre-set and actual values.
13.	It should have a facility for selection of speed in both rpm and g-force with increment of 10.
14.	It should give an audible signal at the end of each run.
15.	It should have a "Quick" key for short run.
16.	It should have at least 10 acceleration & deceleration. rates.
17.	It should have maximum capacity: 44 x 1.5/2.0 ml. Rotor to be provided for : 24 x 1.5 ml, 24x2.0ml, 40x0.2ml, 40x0.5ml.
18.	It should have storage of up to 99 runs.
19.	It should have pre cooling program.
20.	Noise level < 60dbA.
21.	System must be manufactured according to international safety regulations IEC 1010. CE approved. ISO 9001 certified.
22.	Power Supply: 220-240 V/50 Hz.
23.	A stabilizer should be provided.
24.	Warranty: 2 years as per bid documents.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

OBS & GYNE

Item No. 53

Equipment Specifications for Antepartum and Intrapartum foetal monitor (Cardiotocomachine)

1 Description of Function	
1.1	Antepartum and Intrapartum foetal monitor (Cardiotocomachine) is used to monitor Foetus during antepartum period (before labour) or intrapartum period (birth process)"
2 Operational Requirements	
2.1	The complete unit with printer and all accessories should be offered.
3 Technical Specifications	
3.1	The monitor should be provided with 1) Battery and main operation facility 2) Should have inbuiltLCD screen /LCD TV monitor with facilities to display on screen fetal heart tracings and toco tracings. 3) Should be compact, light weight and should have inbuilt carrying handle and waterproof transducers. 4) The unit should have Fetal Heart Rate range 50 to 240 bpm External Toco range 0 to 127 relatives units Should have NST timer for antepartum applications 5) Highly sensitive ultra sound transducer which should be 1.5 MHZ for less signal attenuation and good signal acquisition. Ultrasound transducer should be a waterproof unit. Designed with Snap Clasp closure for easy application and cleaning. Should have facility to connect any transducer in any socket for easy use. Preferably there should be facility to switch between transducers when more than one transducer is used. 6) Ability to give an accurate continuous trace and should be able to detect sudden beat changes upto 25 bpm 7) Audible alert indication of fetal bradycardia and tachycardia 8) External tocotransducer which should be a sealed waterproof unit. Guard ring designed to reduce maternal respiration artifact. 9) Patients event marker. 10) Capability of automatic fetal movement detector. 11) Digital numeric and text display along with audio signal of fetal movement Should have inbuilt keyboard entry screen for patient data entry, name etc. Minimum 5 hour memory of traces with fast printing. 12)Should provide following accessories – Transducer belts, Belt buckles,Main cables, interconnecting cables, ultrasound gel bottles.

	13) Inbuilt high resolution thermal/Laser printer with easily available cost effective paper. 14) Should be provided with trolley with wheels with locking facility for mounting the unit on it with accessories for storage of transducers paper etc or the unit must have the facility for wall mounting and a protective cover with cabinet. 15) Optional (I) Should have facility for intra uterine pressure monitor. (II) Should have facility to record fetal heart rate pattern through fetal ECG. (III) Should have facility to monitor twins. Should have twin offset feature so that both fetal heart traces are clearly visible. (IV) Should have facility of connection of central monitor system.

4 System Configuration Accessories, spares and consumables

	None

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 operating continuously in ambient temperature of 20-30 deg 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

6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2 Should work on 220-240V AC as well as rechargeable batteries. Mains adaptor to be supplied	

7 Standards, Safety and Training

7.1	Should be US FDA, CE, UL or BIS approved product
7.2	Comprehensive warranty as per bid document.
7.3	Comprehensive training for lab staff and support services till familiarity with the system.
7.4	Manufacturer should have ISO certification for quality standards.
7.5	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.

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English & DVD for the same.
8.2	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.
8.3	Certificate of calibration and inspection.
8.4	List of important spare parts and accessories with their part number and costing.
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 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.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the “All inclusive lump sum price” should include all such costs.

Item No. 54

Equipment Specifications for Ultrasonic Cutting and Coagulating Device for Open & Laparoscopic Surgery

1 Description of Function	
1.1	Ultrasound is the basis for an efficient surgical instrument: the **Ultrasonic Scalpel** cuts and coagulates by using lower temperatures than those used by electrosurgery or lasers. **Ultrasonic Scalpel** technology controls bleeding by coaptive coagulation at low temperatures ranging from 50ºC to 100ºC: vessels are coapted (tamponaded) and sealed by a protein coagulum.
2 Operational Requirements	
2.1	The system suitable for General as well as Laparoscopic Surgery is required.
3 Technical Specifications	
3.1	Specification: 1•It should have an ultrasonic generator with a frequency of 55 to 60 KHz capable of incising tissue and providing haemostasis with minimal thermal injury. 2• It should have both 5 mm and 10 mm instruments. 3. It should have a vibration range of 50-110 microns. 4•It should be compatible with the following types of shears for open and laparoscopic surgery. 5 mm Laparoscopic Curved coagulating Shears 360 degree rotatable, capable of sealing blood vessels minimum 5mm diameter bilateral integrated hand control to enable precise operation of system by hand. 5•It should have option of attaching rotating hand switch adapter with integrated bilateral switches to enable precise operation of system by hand for hooks and blades. 6• The generator should have option to connect two foot switches, which should allow connection and placement of foot switches on either side of the operating table, if required. 7•It should have standby mode for better safety. 8.It should have system diagnostics and trouble shooting guide to pinpoint and resolve alert/alarm condition. 9.It should have well equipped service centre in India. 10•It should comprise of, Hardware 1. Generator 2. Foot Switch & Cable

	3. Cart Accessories: 1. Handpiece 2. 5 mm Blade System Adaptor 3. Adaptor for Shears 4. Hand Switching Adaptor 5. Sterilization tray Open Surgery Instruments : **1.** Hand Activated Coagulating Shears with Clicker- 5mm dia, curved Mode, Capable of sealing blood vessels upto 5 mm, 23 cm long. Endoscopic Surgery Instruments: **1.** Laparoscopic Hand Activated Coagulating Shears- 5mm dia, Curved Mode, 36 cm long, capable of sealing blood vessels upto 5 mm.
4 System Configuration Accessories, spares and consumables	
4.1	All consumables required for installation and standardization of system to be given free of cost.
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 operating continuously in ambient temperature of 20-30 deg 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	
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	UPS of suitable rating with voltasge regulation and spike protection for 60 minutes back up.
7 Standards, Safety and Training	
7.1	Should be US FDA, CE, UL or BIS approved product
7.2	Manufacturer should have ISO certification for quality standards.
7.3	Comprehensive training for lab staff and support services till familiarity with

	the system.
7.4	Comprehensive warranty as per bid.
7.5	Certified to be compliant with IEC 60601-2-2 Medical Electrical Equipment Part 2-2: Particular requirements for the safety of High Frequency Surgical Equipments

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	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	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 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.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

OPHTHALMOLOGY

Item No. 55

SURGICAL OPERATING MICROSCOPE

- Compact microscope body with high quality apochromatic Optics with 1:6 zoom ratio, Retina Protection Device and contrast enhancement aperture.
- Inclinable 60-180 Deg. Binocular tube with 12.5 X magnification eye pieces
- Objective with 200mm focal length for convenient working distance
- +2 Deg. Retro illumination with continuous fading mechanism of co-axial illumination from 2 Deg.
- Integrated slit illumination system with horizontal and vertical moving facility.(Optional)
- Integrated Depth of Focus mechanism for improved depth of focus during surgery.
- Motorized foot controlled X-Y coupling with automatic re-centering and X-Y inversion facility.
- Motorized foot controlled Zoom and focus with recentring of focussing position thru foot control.
- High quality programmable floor stand with magnetic breaks and clutches for easy positioning through handles and suspension arm. Atleast 15" TFT Touch screen with facility for direct sterile interaction".

- Stand should have programming facility for setting the speed of XY, Zoom and focus with storage facility of initial setting for multiple users.
- Stand should have cold light fiber Optic illumination with two illumination bulb with semi automatic changeover facility.
- Independent integrated binocular assistant microscope with 5 Step magnification changer and focussing.

- CCD Digital camera attachment and digital video recording facility with imported high quality video trolley with isolating transformer. (As manufactured or provide by the parent company manufacturing the microscope .) No local attachments permitted.36/42" LED display unit
- Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet

NOTE:

- Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 56

REFRACTION UNIT WITH MOUNTED SLIT LAMP AND 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

SLIT LAMP BIO MICROSCOPE.

A Binocular Bimicrosccpe with a slit lamp system for providing desired types of illumination for various types of examination of the eye.

A Microscope

1. Type : Slit Lamp Binocular Biomicroscope.
2. However a Binocular Biomicroscope of which optical axes of left and right oculars are not parallel is excluded.
3. Control of magnification : Should be in steps
4. Objectives : Paired 1x and 1.6x

   Objective lens focal length(100-125mm)
5. Eye Pieces : 10x and 16 x
6. Inter-pupillay distance : 50mm to 75mm
7. Magnification and field of view :

Eye Piece	Objective	Magnification field
10x	1 x	18mm,15mm, 11 mm
16 x	1.6 x	9mm, 4mm, 2mm

B. Slit Illumination Section

1 Slit image width adjustment :0.10 mm continuously variable (at 10mm, slit becomes a circle)

2 Slit image length adjustment : 0-10mm continuous variable.
3 Diameter of diaphragm approx. or
Diameter of illuminate field : 8mm, 5mm, 3mm, 2mm, 1mm and 0.2mm
4 Angle of Slit (rotation) : +1-90^{o}
5 Tilt of slit (decentration) : To horizontal 0° - 15°
To vertical 0° - 20°
6 Filters : Cobalt Blue: Red free and gray (neutral density) Polarizer or other N.D filters may be stated (Optional)
7 Light Source : Halogen Lamps
8 Intensity Control of Illumination : Low, Medium and High

D. <u>Chin Rest Assembly</u>

1. Type : Mechanical

2. Fixation Light Assembly :

E. Table Type :

Mechanical - Hydraulic/ Motorised

F. Power Supply

AC-220V-240V, 50 Hz

G. Spare Mandatory

1. No of bulbs : 6 Nos
2. No of fuses : 4 Nos
3. Set of Mirrors : 2 sets
4. Applanation Tonometer : One
5. Hruby lenses : One
6. +90 D lens for posterior segment : one
7. Four mirror gonioscope : one

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

NOTE:

- Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

PATHOLOGY

Item No. 57

Equipment Specifications for Autoloading Urine Strip Analyzer

1 Description of Function	
1.1	Urine strip analyzer quickly analyses urine chemistry for diagnosis and screening
2 Operational Requirements	
2.1	Must have flexible user programmable option available to use lesser parameter strip as and when required
2.2	Measurement Principle: Reflectance Photometry (Inbuilt)
3 Technical Specifications	
3.1	Shelf life for the Urine Strips should be more than 12 months.
3.2	Measured Parameters:(i) Leucocytes, S.G, pH, Glucose, Nitrite, protein, Ketones, Urobilinogen, Blood, Billirubin
3.3	Throughput (Speed) :Should be more than 350 tests/hour with complete time monitoring be done by system
3.4	Strip Feeding :Must be automatic feeding and automatic strip detection
3.5	Reporting :Must have facility to enter sample ID and same should appear on printout
3.6	Memory :At least 1000 tests results stored automatically
3.7	Display: (i) LCD module to show all data on screen to show test results and operation status of system. (ii) Display size-approx 40 characters X 12 lines or 20 characters 6 lines.
3.8	Printer :Built in printer
3.9	Waste management:Automatic unloading of used strip to separate waste tray
3.10	RS 232C Interface for datacommunication.
3.11	At least one year shelf life.
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
4.2	Urine strip start up kit- 1000 strips
4.3	All consumables required for installation and standardization of system to be

	given free of cost.

5 Environmental factors	
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 80%.

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

7 Standards and Safety	
7.1	Should be US FDA or CE or ISI approved product
7.2	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	
8.1	User/Technical/Maintenance manuals to be supplied
8.2	Certificate of calibration and inspection from factory.
8.3	List of Equipments available for providing calibration and routine 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

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 58

Equipment Specifications for Semi Automated ESR Analyzer

1 Description of Function	
1.1	ESR (erythrocyte sedimentation rate) is a nonspecific screening test for various diseases. This 1-hour test measures the distance (in millimeters) that red blood cells settle in unclotted blood toward the bottom of a specially marked test tube.
2 Operational Requirements	
2.1	Semi-Automated ESR Analyzer for quantitative ESR by using of capillary blood with kinetic photometry principle should accept any size of sample tubes and works by using all kind of anticoagulant (EDTA). System should have the following essential features :-
3 Technical Specifications	
3.1	Thru-put:Over 50-80 sample/ Hours
3.2	Principle of Measurement: By infra-Red Kinetic photometry
3.3	Loading of sample: Semi-Automated sample aspiration one by one
3.4	Reading time for each sample : Maximum 20 to 30 Sec./Sample
3.5	Sample Collection:Any type of blood collection EDTA tubes / vials
3.6	Anti-Coagulant: should work with sample collected in EDTA
3.7	Reading Temperature : 37ºC
3.8	Safety Features (Blood Sample) :Closed Cycle no touch with blood sample
3.9	Waste collection: In Safety tank at the end of cycle
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
4.2	Compatible Barcode Scanner.
4.3	Vacuum Tubes-1.2 ml(box of 100)- 100 boxes
4.4	Printer paper- 10 packs.
5 Environmental factors	
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 80%.

6 Power Supply

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

7 Standards and Safety

7.1	Sample Reading :As per compliance with ICSH (InternationalCommittee for the Standardization of Hematology)
7.2	Should be compliant to ISO 13485: Quality systems - Medical devices - Particular requirements for the application of ISO 9001applicable to manufacturers and service providers that perform their own design activities.
7.3	Should be compliant with IEC 61010-1:covering safety requirements for electrical equipment for measurement control and laboratory use.
7.4	Comprehensive training for lab staff and support services till familiarity with the system.
7.5	Should be US FDA or CE or ISI approved product

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied
8.2	Certificate of calibration and inspection from factory.
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 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.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the “All inclusive lump sum price” should include all such costs.

Item No. 59

EQUIPMENT SPECIFICATIONS FOR COAGULOMETER

1 Description of Function	
1.1	Cagulometer measures the blood clotting parameters.
2 Operational Requirements	
2.1	Complete system with printer is required.
3 Technical Specifications	
3.1	16 incubation positions for samples (4 cells x 4 columns).
3.2	2 measurement channels.
3.3	4-8 positions for reagents (one with magnetic stirrer) and 2 pipette wells
3.4	Four independent built in timers for incubation.
3.5	Measurement possible in plasma
3.6	Automatic pipette (electronically connected or manual start up)
3.7	Backlight LCD display, 4 lines of 40 characters with built in printer
3.8	Results in seconds and in various units (% INR, Ratio, Gm/ L mg/ds, IC/ml)
3.9	RS 232 interface
3.10	Incubation and measurement wells at 37ºC +/- 0.5ºC
3.11	Tests: PT, PTT, TT, FIB (Clauss and PT derived), Factor II, V, VII, VIII, IX, X, XI, XII, Fletcher, VT (Venom time), APCR, AT-III (clot), Protein C (clot), Protein S (clot), Heparin, STAT (PT/PTT)
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
4.2	The following set of accessories should be offered: Double Cuvettes: 1000 Pcs stage Autopipette: 1 Pc (25/50/100/200µl) Reagent Adaptor: 22,5mm, 1 Pc Reagent Adaptor 22,8mm, 1 Pc Reagent Adaptor 24,2mm, 1 Pc Reagent Adaptor 27,8mm, 1 Pc Reagent Adaptor 25,2mm, 1 Pc Stirring magnets, 4 Pcs Main cable -1 pc Reagent container 22.4mm- 200 Pcs

	Reagent tubes 16mm, 200 Pcs Thermal Printer, 1 Pc Thermal Paper, 10 rolls Printer Cable, 1 Pc			

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	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	Comprehensive as per Bid.		
7.2	Manufacturer should have ISO certification for quality standards.		
7.3	Should be US FDA or CE or ISI approved product		

8 Documentation

Sl	Name	Technical Specs quoted	Bidders Deviation if any

		by bidder	
8.1	User/Technical/Maintenance manuals to be supplied		
8.2	Certificate of calibration and inspection from factory.		
8.3	List of Equipments available for providing calibration and routine 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		

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 60

Equipment Specifications for Sperm Quality Analyzer

1 Description of Function	
1.1	Sperm quality analyzers (SQA) are used for assessing male fertility..
2 Operational Requirements	
2.1	System complete with printer and necessary software should Run on fresh, frozen and washed semen samples. Should not require any sample dilution.
3 Technical Specifications	
3.1	Fully automatic numerical readouts of separate integrated and totalized semen parameters
3.2	Results to be calculated and displayed within 50-75 seconds
3.3	Must have self testing and self calibrating facility
3.4	Built-in printer.
3.5	RS232/USB output for Printer, PC connectivity and Data acquisition should be there
3.6	Should report sperm count, motility, normal morphology and additional semen parameters.
3.7	A built-in memory capable of storing up to 1000 test results
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
4.2	All consumables required for installation and standardization of system to be given free of cost.
4.3	Cost of capillaries for1000 tests should be quoted.
4.4	Cost of quality control reagents required for 1000 tests.
4.5	Cost of other reagents required for 1000 tests
5 Environmental factors	
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	
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	UPS of suitable rating shall be supplied for minimum 1 hour backup for the entire system
7 Standards and Safety	
7.1	Should be US FDA or CE or ISI approved product
7.2	Manufacturer should be ISO certified for quality standards.
7.3	Comprehensive warranty as per bid.
8 Documentation	
8.1	User/Technical/Maintenance manuals to be supplied
8.2	Certificate of calibration and inspection from factory.
8.3	Inspection Certificate from manufacturer to be complying with WHO specification as specified above.
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
8.6	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 61

EQUIPMENT SPECIFICATIONS FOR REFRIGERATOR CUM DEEP FREEZER

1 Description of Function	
1.1	Refrigerator cum deep freezer maintains two distinct temperature zones. The refrigerator zone is for chilling above zero and freezer zone is for sub zero temperatures.
2 Operational Requirements	
2.1	Fridge is required at temperatures +5 deg C to +15 deg C and Freezer to maintain -20 deg C to - 35 deg C.
3 Technical Specifications	
3.1	Storage Capacity/Volume: Fridge: 150-260 Litres ; Freezer: 100-150 Litres.
3.2	Construction: Internal: Stainless steel (9min. 22 g) External: Corrosion Resistance (CR at least 1 mm thickness) Chest type with CFC – free insulation Upright trays Solid door
3.3	Type:Compression Cycled, CFC-Free Refrigerant R-134a(both for refrigeration and insulation)
3.4	Compressor starting at 22% below rated voltage(both hot and cold starts).
3.5	Individual display for temperature inside the freezer and the fridge.
3.6	Individual alarm for Low/High temperature inside freezer and the fridge.
3.7	Target holdover time should be 15 hours or more in a continuous external temperature of 43 deg C and 40 hours or more in a continuous external temperature of 32 deg C.
3.8	Provision for drainage for the waste water. Easy access to this waste water container for disposal of waste water.
3.9	Should have adjustments for uneven bases. The adjustments should be easy to use like rotating a screw at the legs in the base.
3.10	Spill proof adjustable shelves/drawers.
3.11	Control panel with digital display .
3.12	Humidity controller in both the compartments.
3.13	Frost free system

3.14	Internal illumination
4 System Configuration Accessories, spares and consumables	
4.1	System as specified-
5 Environmental factors	
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 80%.
6 Power Supply	
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Suitable voltage corrector/stabilizer
7 Standards and Safety	
7.1	Should be US FDA or CE or ISI approved product
8 Documentation	
8.1	User/Technical/Maintenance manuals to be supplied
8.2	Certificate of calibration and inspection from factory.
8.3	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 62

Equipment Specifications for Automatic Cell Counter 5 part with Automatic Reticulocyte Count

1 Description of Function	
1.1	Automated Blood Cell Counter is used to count various types of blood cells in the blood.
2 Operational Requirements	
2.1	Automatic blood cell counter that measures 31 parameters including 5-part differential of WBC is required complete with printer.
3 Technical Specifications	
3.1	Parameters to be measured are - WBC, RBC, HGB, HCT, MCV, MCH, MCHC, PLT RDW-CV, RDW-SD, MPV, PDW, P-LCR, PCT, NEUT %, LYMPH %, MONO %, EO %, BASO %, NEUT #, LYMPH #, MONO #, EO #, BASO #, RET %, RET #, LFR, MFR, HFR, IRF, PLT-o.
3.2	Histogram WBC 5-part diff distribution, RBC distribution, PLT distribution .
3.3	Measurement Principle Electrical impedance method (WBC, RBC, HCT, PLT) Cyanmethemoglobin colorimetric method (HGB)
3.4	Low Sample Volume of 10-100µL
3.5	Throughput > 60 samples per second.
3.6	Linearity Ranges WBC 0.5-80.0 * 103/µL RBC 0.20-7.50 * 106/µL HGB 2.0-25.0 g/dL HCT 10.0%-70.0% PLT 10-999 * 103/µL
3.7	Reproducibility (CV) WBC RBC HGB HCT PLT LYM% MON% GRA%
3.8	The sampling probe should be automatically cleaned off, so that any blood stack doesn't occur.

3.9	It should take only 60-65 seconds to acquire the measurement result
3.10	Various sensors should check the condition of the instrument. If any abnormality is detected, an error message be displayed so that occurrence of trouble is prevented
3.11	Automatic reticulocyte count with no manual step of pre-treatment etc.
3.12	Integrated thermal printer.

4 System Configuration Accessories, spares and consumables

4.1	System as specified-

5 Environmental factors

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 80%.

6 Power Supply

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

7 Standards and Safety

7.1	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.
7.2	Should be compliant with IEC 61010-1:covering safety requirements for electrical equipment for measurement control and laboratory use.
7.3	Should be US FDA or CE or ISI approved product
7.4	Comprehensive training for lab staff and support services till familiarity with the system.

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied
8.2	Certificate of calibration and inspection from factory.
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 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.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

PEDIATRICS

Item No. 63

EQUIPMENT SPECIFICATIONS FOR BED SIDE MULTIFUNCTION MONITORS

1 Description of Function	
1.1	Bedside monitors are used to monitor the Vital parameters of patients continuously at patient's side in wards and ICU,CCU and other intensive care units.
2 Operational Requirements	
2.1	Monitors should be preconfigured, easy to use, portable, wall mounted and operation by single knob control weight should not be more than 5-6 kg
3 Technical Specifications	
3.1	1. It should have following parameters. : (a) Monitoring of 5 leads ECG : (I, II, III, AVR, AVL, AVF and chest lead) and pulse detection, display of heart rate with low and high heart rate alarm (adjustable between 30-250 bpM, audio-visual alarms). (b) Pulse Oximetry (SPO2) / pleth and should also to show plethy morgraphic pulse wave form, adjustable audio-visual alarm. (c) Respiration and apnoea : Monitor, rate between 5-100/mt with low and high limit alarms, respiratory graphic and numerical display and audio-visual alarms. (d) Non-invasive blood pressure monitoring : which may be used in very premature baby to adults. (e) Temperature monitoring facility can be used to measure temperature from 30C-42C by skin as well as per-rectally. (f) SPO2 probes – Ear lobule probe, finger probe flexible wrap probe for neonates and one universal Y probe. (g) NIBP cuff of at least 4 sizes disposable for measuring baby from 1 kg to 12 kg (2 cm, 2.5 cm, 3.5 cm, 4.5 cm) and two size non-disposable for grown up of children for measuring BP for children between 2-14 yrs. (h) NIBP measurement must be on a proven Oscillometric reading on deflation of cuffs NIBP should be possible manually or automatic mode through time set intervals ranging from 1-120 minutes. 2. Printer and voltage stabilizer and conversion of voltage (transformer) should be integrated / built in part of the multifunction monitor. Built in battery should work at least for 2 hours without charging. Automatic recharge) Automatic switch from main to batteries in case of power failure. Defibrillator sync & protection. Pacemaker deletion / rejection. 3. Monitors should have at least 10 inch or more high resolution active matrix color display screen having resolution of 640 x 480 or better with at least 4 traces and numeric valves display facilities simultaneously. Ability to change color of trace by user is must. 4. 24 hours tabular trends should be available for all monitors parameters. 5. Display of alpha numeric messages must be available. 6. At least 3 channel thermal recorder.

	7. It may be upgradeable to mainstream CO2 and two invasive BP monitoring facility for future. 8. Should be capable of measuring oxygen saturation even in case of motion artifacts. 9. Should have cuff measurement ending chine.
4	**System Configuration Accessories, spares and consumables**
4.1	Options for upgrading to mainstream CO2 and two invasive BP monitoring facility for future should be quoted and this will be added for evaluation purposes only.
4.2	Should be supplied with the following accessories: 1.Patient cable(5 Lead) -02 2. Adult and Paediatric Cuff -02 each 3.Neonatal Cuff-02 4.Adult and Paediatric Probe SPO2 -02 each 5.Finger wrap probe SPO2-02 6.Ear Probe SPO2-02 7.Skin Temp Probe -02 8.ECG Electrodes-1000(Disposable) 9.ECG Jelly Bottle-(200 ml each)- 10 bottles
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 0-50deg C and relative humidity of 15-90%
5.3	The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%
6	**Power Supply**
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	UPS of suitable rating shall be supplied for minimum 1 hour backup for the entire system
7	**Standards, Safety and Training**
7.1	US- FDA or European CE approved
7.2	Manufacturer should have ISO certification for quality standards.
7.3	Shall meet the safety requirements as per IEC 60601-2-27:1994—Medical electrical equipment—Part 2: Particular requirements for the safety of electrocardiographic monitoring equipment.
7.4	Comprehensive as per bid.
7.5	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.

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
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

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 64

Equipment Specifications for ECG Machine- 12 Channels

UNSPSC Code: 42203504
ECRI Code: 11-411

1 Description of Function

1.1	ECG Machine is primary equipment to record ECG Signal in various configuration. 12 channels with interpretation is required for recording and analyzing the waveforms with a special software.

2 Operational Requirements

2.1	The ECG Machine should be able to acquire all 12 Leads simultaneously and interpret them

3 Technical Specifications

3.1	Should acquire simultaneous 12 lead ECG for both adult and pediatric patients		
3.2	Should have Real time Colour display of ECG waveforms with signal quality indication for each lead		
3.3	Should have Artifact, AC, and low and high pass frequency filters.		
3.4	Should have a storage memory of at least 100 ECGs with easy transfer by optional modem and data card.		
3.5	Should have full screen preview of ECG report for quality assessment checks prior to print.		
3.6	Should have interpretation facility of the amplitudes, durations and morphologies of ECG waveforms and associated rhythm for adult and pediatric patients		
3.7	Should have alphanumeric Keyboard for patient data Entry. (virtual or hard keys)		
3.8	Should have High resolution (200 dpix500dpi on 25 mm/sec speed) digital array A4 size printer		

3.9	Should have report formats of 3 x4; 6 x2, Rhythm for up to 12 selected leads; 12 Lead Extended measurements, 1 minute of continuous waveform data for 1 selected lead.		
3.10	Should have battery capacity of at least 30 ECGs or 30 minutes of continuous rhythm recording on single charge		
3.11	Should be able to be connected to HIS /LAN/Wireless LAN(OPTIONAL)		
3.12	Should display ECG on LCD/TFT Display of 640x480 pixel resolution.		
3.13	USB Support (optional) for Storage on external portable memories.		
3.14	Multimode of ECG Storage capability on Floppy(min 2), 150 ECG on Internal Flash Memory		

4 System Configuration Accessories, spares and consumables

4.1	ECG Machine 12 Leads with Interpretetion – 01		
4.2	Patient Cable -02		
4.3	Chest Electrodes Adult-(set of six) -02 sets.		
4.4	Chest Electrodes Paediatric-(set of six) -02 sets each of Adult and Pediatrics-Total 4 sets		
4.5	Limb Electrodes(set of 4)- 02 sets of Adult and 02 sets of Paediatrics		
4.6	Thermal Paper A4 Size for 500 patients		

5 Environmental factors

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%		
5.3	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.		

6 Power Supply

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

7 Standards, Safety and Training

7.1	Should be US FDA , CE,UL or BIS approved product		
7.2	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)		

8 Documentation

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.		
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	List of Equipments available for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.		

Item No. 65

ECG MACHINE

- State of the art 12 channel digital ECG machine with simultaneous acquisition of all leads and an LCD display of the trace prior to printing.
- Should have real time display of ECG wave forms with signal quality indication for each lead. Should have adjustable artifact, AC and low and high pass frequency filters. Should have alphanumeric key board for patient data entry (virtual or hard keys).
- Printing should be possible on inbuilt thermal printer and also on an A-4 sized laser paper of standard makes. Thermal printer prints should last over 5 years when kept in normal conditions.
- The unit should be lightweight and portable, capable of storing at least 100 or 200 electrocardiograms and allow for rapid transfer of this data to a computer through wireless or USB ports. DICOM/HL7 ready for data transfer to a HIS/PACS. Should be possible to collate ECGs based on data like ECGs with QRSd>120ms or QT >450ms.
- Machine should run both on AC current & built in rechargeable batteries and should be provided with a proper bag to carry the equipment and its ancillaries. A movable original CART to which the machine can be fixed has to be supplied in addition.
- The ECG machine should confirm to AHA/ACC guidelines and ANSI/AAMI standards for medical equipment.
- The unit should have the capability for proper self check & calibration.
- One set of adult, pediatric and neonatal clip type electrodes for limb leads and chest bulbs for neonates leads along with necessary cables should be provided.
- The output should have the name, date, time ID no. of ECG printed and have the option to print in multiple formats. Should provide all intervals like, PR, QRS, QT, heart rate, RR etc.
- The unit should preferably be capable of providing continuous single / three/ six channel output in any combination in case of necessity of long rhythm strips.
- In case the machine needs a computer to provide the laser outputs, then computer of a standard make with good RAM/HDD and a high speed B & W laser printer and necessary software should also be provided. These have to be under similar warranty.
- All spares should be quoted separately i.e. ECG clips, bulbs, ECG cables and batteries.
- Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet

Each machine should have a spare cable, leads, bulbs etc.

Comprehensive Guarantee for two years for parts and labour. All cables, electrodes, bulbs Battery etc. have to be provided by the vendor during the warranty period.

Item No. 66

Equipment Specifications for NEONATAL OPEN CARE SYSTEM

1 Description of Function	
1.1	Quartz heater based radiant warmer with integral bed used for clinical management of neonatal hypothermia. The equipment can be operated in servo or manual modes. Facility for halogen based phototherapy
2 Operational Requirements	
2.1	Units are provided to use the equipment in the labor ward, NICU or general nursery and battery back up to 20 minutes. Suitable UPS should be provided along with the machine for uninterrupted operation
2.2	Epoxy / Powder coated body for scratch and rust prevention
3 Technical Specifications	
3.1	SPECIFICATIONS NEONATAL OPEN CARE SYSTEM 1.Working temperature: Range 30 - 42deg C 2.Accuracy: +/-0.2 deg C 3.Resolution 0.1deg C 4.Accuracy of probe interchangeability: +/-0.2 deg C 5.Need for probe calibration: Not required 6.Temperature probe:Thermistor based interchangeable probe. Wire should be easy to clean, long lasting, Teflon coated with silicon rubber sleave. 7.Set temperature range: 32 deg C to 38 deg C 8.Power: Less than 1 K.W. 9.Heating element: Quartz encapsulated heater with parabolic reflector 10.Temperature display: Bright numerical LED display at 1" for viewing from distance 11.Alarms :High temperature (more than 0.5 deg C difference). Low temperature (more than 0.5 deg C difference). Temperature probe failure. Power failure. System failure. Heater failure. Time out alarm (manual mode). 12. Maximum Mattress Tilt (12-15) Degrees (Continuously variable) on both sides. The heater should not get switched off even when swilled to extreme sides during examination to ensure that the baby still gets heat.. 13. Mattress padding: foam density approximate 21-25kg/m^3. 14. Side board acryl, drop down a lockable. 12.Maximum mattress tilt: +80 (continuously variable) both side .Maximum mattress swivel on both sides of vertical column +45deg C

	13.The unit is mobile with 4 swivel castors fixed to the base. .Diameter of castors: 4" (front 2 wheels lockable. Imported castors with antistatic wheel 14.Observation lamp: Halogen based lamp focusable any where on the bed 15.Bed: Oval-suitable for preterms and LFD babies 16.Facility of stand – for I.V. fluids. 17. Integrated phototherapy / Halotherapy(optional): Should be placed on the both sides of overhead heaters bulbs on each side angled for effective treatment Supply to each unit irridiance :12V 12A 50 Hz;6-8 w/cm2/nm at bed level		

4 System Configuration Accessories, spares and consumables

4.1	All consumables required for installation and standardization of system to be given free of cost.		

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 0-50deg C and relative humidity of 15-90%		
5.3	The unit shall be capable of operating continuously in ambient temperature of 20-30 deg C and relative humidity of 15-90%		

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz		
6.2	Suitable Autovoltage corrector with spike protector should be available.		
6.3	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	Product should be US FDA or European CE approved."		
7.2	Manufacturer should be ISO certified for quality standards.		
7.3	Electrical safety conforms to standards for electrical safety IEC 60601-1 (OR EQUIVALENT international/national standard)General requirement for Electrical safety of Medical Equipment.		
7.4	Comprehensive warranty as per bid.		
7.5	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.		

8 Documentation			
8.1	User/Technical/Maintenance manuals to be supplied in English.		
8.2	Certificate of calibration and inspection from factory.		
8.3	List of important spares and accessories with their part number and costing.		
8.4	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.		

Item No. 67

PHOTOTHERAPY UNIT (NEONATAL PHOTOTHERAPY UNIT – CFL)

1 Description of Function

Phototherapy units are used to treat hyperbilirubinemia, a condition characterized by high bilirubin concentrations in the blood. These units are also called: bilirubin lamps, bilirubin lights, fiberoptic phototherapy blankets, neonatal phototherapy units

2. Operational requirements

i) Should be Compact Florescent lamp (CFL) based Phototherapy unit used for clinical management of neonatal hyperbilirubinemia
ii) Lamp unit should be made with plastic lamp module with metallic top cover for efficient heat dissipation to reduce radiant heat on infant.
iii) Should occupy very little bedside space, offer convenience in observation and procedures
iv) The unit should be mobile with 3 swivel castors of 2" diameter fixed to a T shaped base to be accommodated beneath trolley/bed with adjustable height.

3. Technical Specifications

i) Irradiance at 430-480nm effective to the baby at least 18mw/cm2/nm at 45 cm from the lamp.
ii) Lamps: compact florescent lamps
iii) Height adjustable (app +/- 5 cm): 138cm(min)-190cm(max)
iv) Lamp tiltability: horizontal to vertical at any angle.
v) Time totalizer: Mechanical/Electronic
vi) Therapy duration timer: resettable – optional
vii) Height of the base app: 6-8cm(at the front)
viii) Size of the lamp unit(LxBxH): 47x40x9 +/-5cm
ix) Coating: epoxy/Powder coated body for scratch and rust prevention.

4. System Configuration Accessories, spares and consumables

i) System as specified
ii) All consumables required for installation and standardization of system to be given free of cost.
iii) 100 bulbs should be supplied along with each unit.
iv) Phototherapy eye pads 100 each for preterm and term babies to be provided free

5. Environmental Factors

i) The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 15-90%
ii) The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%

6. Power Supply

i) Power input to be 220-240VAC, 50Hz fitted with Indian plug
ii) UPS of suitable rating with voltage regulation and spike protection for 60 minutes back up.

7. Standards, Safety and Training

i) Should be US FDA,CE,UL or BIS approved product
ii) Shall be certified to meet Electrical safety requirements as per IEC 60601-2-50 Medical Electrical Equipment part-2-50. Particular requirement for the safety of Infant Phototherapy equipment
iii) Manufacturer/supplier should have ISO certification for quality standards.
iv) Comprehensive warranty as per bid document.

v) CMC would include all electrical, electronic and mechanical items.
vi) The CMC should provide at least 100 CFL lamps every year per unit.

8. Documentation

i) User/Technical/Maintenance manuals to be supplied in English.
ii) Certificate of calibration and inspection.
iii) List of equipments available for providing calibration and routine preventive Maintenance support as per manufacturer documentation in service/technical manual.
iv) List of important spare parts and accessories with their part number and costing
v) 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.
Vi) Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet

Item No. 68

Equipment Specifications for PHOTOTHERAPY UNITS(DOUBLE SURFACE)

1 Description of Function	
1.1	Phototherapy units are used to treat hyperbilirubinemia, a condition characterized by high bilirubin concentrations in the blood.These units are also called: bilirubin lamps, bilirubin lights, fiberoptic phototherapy blankets, neonatal phototherapy units
2 Operational Requirements	
2.1	The system should meet all the numerical values given in the technical specifications within a tolerance of +/- 10 %.
3 Technical Specifications	
3.1	Technical Specifications: 1. It should be two-way of phototherapy unit i.e. one phototherapy lamp should be from top and the other from below (both overhead and undersurface). 2. There should be option to use either of the lamps. In other words, whenever only overhead exposure is desired, the attending health care provider may have option to operate only the overhead lamp and not the lamp below the bed, and vice versa. 3. Each lamp unit should be provided with 4 CFL tubes emitting blue radiation between 450-480 nm wavelengths. 4. One each side of the panel of overhead tubes, day light tube should be provided to facilitate observation of baby and for performing practical procedures whenever required. 5. It should have height adjustment facility. 6. It should allow easy swiveling of box to allow positioning of portable x-ray machine. 7. The unit should be mounted on stand having lockable wheels (castors) for easy transportation from one place to other. 8. At the baby’s surface, the exposure should be 18-20 microW/cm2/nm.
4 System Configuration Accessories, spares and consumables	
	Spare Bulb and White CFL
5 Environmental factors	
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**
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	UPS of suitable rating shall be supplied for minimum 1 hour backup for the entire system
7	**Standards, Safety and Training**
7.1	Should be US FDA , CE,UL or BIS approved product
7.2	Manufacturer should be ISO certfied for quality standards.
7.3	Comprehensive warranty as per bid.
7.4	Shall CERTIFIED to be meeting Electrical Safety requirements as per IEC 60601-2-50 Medical Electrical Equipment part-2-50 Particular requirements for the safety of Infant Phoototherapy Equipments
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
8.4	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.
8.5	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.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the “All inclusive lump sum price” should include all such costs.

Item No. 69

Equipment Specifications for Radiant Warmer with Baby Bassinet

1 Description of Function	
1.1	A radiant warmer is used to keep the patient's core temperature stable at 37°C
2 Operational Requirements	
2.1	It should be microprocessor controlled radiant warmer with manual and servo options
3 Technical Specifications	
3.1	1. It should have facility to display both skin and air (ambient) temperature separately. 2. It should have audiovisual alarm facility for overheating beyond set temperature range. 3. it should have alarm facility for patient temperature less than or greater than the required temperature i.e. above or below the set range. 4. It should rotate and swivel in different direction, so as to allow taking X-ray. 5. The light should be dazzle free. 6. It should have alarm for power failure. 7. It should have alarm for heater failure. 8. It should have alarm for probe failure. 9. It should have time out alarm in manual mode. 10. The equipment should be supplied with a suitable rating UPS. 11.Table surface with mattress with infant head/ shoulder support. 12. Mattress padding: foam density approximate 21-25kg/m³. 13. Side board acryl, drop down a lockable. 14. It should have manual setting for high and low alarm setting. 15. In servo mode, the heater output should be controlled to maintain the baby at the required set temperature. 16. In manual mode, the heater output should be directly controlled by a setting on the front panel. 17. The desired temperature range from 25 to 40 degree C. 18. The resolution should be 0.1 degree C. 19. The height of the warmer should be adjustable for different types of bed. 20. Halogen based observation light should be provided for observing the baby. 21. It should be mounted on a pole with sturdy base with lockable castors. 22. The unit should have an integrated APGAR timer which is essential in Labor and delivery rooms for initial analysis as soon as the baby is born.
4 System Configuration Accessories, spares and consumables	
	None
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 0-50deg 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

6.1	Power input to be 220-240 VAC, 50Hz fitted with Indian plug
6.2	Suitable Autovoltage corrector with spike protector should be available.

7 Standards, Safety and Training

7.1	Product should be US FDA or European CE approved."
7.2	Manufacturer should be ISO certfied for quality standards.
7.3	Certified to be compliant with IEC 60601-2-21, Medical Electrical Equipments part-2-21 particular requirements for Electrical Safety of Infant Radiant Warmers.
7.4	Comprehensive warranty as per bid.
7.5	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.

8 Documentation

8.1	User/Technical/Maintenance manuals to be supplied in English.
8.2	Certificate of Calibration and inspection from the factory
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. 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

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Item No. 70

EQUIPMENT SPECIFICATIONS FOR TRANSPORT INCUBATOR

1 Description of Function	
1.1	Required for transportation of premature babies and neonates and it can be used for long distance transportation .
2 Operational Requirements	
2.1	It should be mobile intensive care station including transport ventilator, incubator, and power supply unit and infusion stand
3 Technical Specifications	
3.1	Technical Specifications 1 It should be mounted on collapsible trolley having lockable rust free castors of the size 4 inches or more and with two A type Aluminum oxygen cylinders on rack under the Incubator . 2 Single walled incubator with at least two large port holes for access. Iris ports for ventilator & other tubings. Bed level at least 80 cms. above ground level. Two shelves cabinet with door. 3 Width: app 80 cm+ 5 cms. , Depth 30 cm + 5 cm, height 115 + 5 cms, Mattress to hood distance at least 30 cms. 4.Air Mode: adjustable set temperatures between 20 – 39 C. Display of set temperatures with resolution of 0.1 C. Skin mode adjustable set temperatures between 34 – 38 C. Display of set temperatures with resolution of 0.1 C. 5. Alarms of High , Low and Probe failure for the set air mode up to +2.5 C and skin mode of + 0.5 C of temperatures 6. Oxygen monitor in incubator hood with display of 21 – 100% Oxygen alarms for high, low and probe failure. 7. Heart and Oxygen saturation monitor: Fixed, built monitors, dual wavelength probe for Oxygen saturation with Digital LED display for Heart rate and Oxygen saturation. Alarms for high and low for Heart Rate, Oxygen saturation and probe failure 8.The system should have an internal rechargeable maintainence free battery to ensure continued functioning of the unit for at east 4 hours during transport. It should have automatic switch circuit for change over from battery to AC and vice versa. 9.One suction apparatus with negative suction pressure of 5- 120 mm Hg should be provided. IV fluid stand should support two infusion bottles 10.One Syringe infusion pump with stand compatible with 10, 20, and 50 ml syringes compatible with locally available brand of syringes. Range of infusion rate 1 – 99 ml / hr.in steps of 0.1ml. Display infusion rates, Alarms for occlusions, end of infusion with internal rechargeable battery should be provided along with the quoted price 11. Height less than 60”, depth less than 30”, width 33”-36”. Weight 90-100 kg. With wheel mounted. (All dimensions in approximation of +/-10%) 12. Bacterial air filter to remove air born particles 13. Two 10 L integrated oxygen cylinders regulator and flow meters.

	14. The incubator should be mounted on a collapsible trolley so that the same can be easily shifted in any ambulance requiring minimum manpower.		
4	**System Configuration Accessories, spares and consumables**		
4.1	System as specified		
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 - 50deg C and relative humidity of 15-90%		
5.3	The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%		
6	**Power Supply**		
6.1	Power input to be 220-240VAC, 50Hz		
6.2	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**		
7.1	**Product should be US FDA or European CE approved."**		
7.2	Manufactures/Supplier should have ISO certificate to Quality Standard.		
7.3	Comprehensive warranty as per bid.		
7.4	Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450		
7.5	Electrical safety conforms to standards for electrical safety IEC-60601-2-19:Medical Electrical Equipment part 2 Particular Requirements of Safety of Baby Incubator.		
8	**Documentation**		
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		