Procurement and supply of Mobile Prosthetic Orthotics vans to serve in inaccessible and Tribal areas in Andhra Pradesh

S. No	Description	Qty	Estimated value
1	A.P Differently Abled and Senior Citizens Assistance Corporation (APDASCAC) - **Procurement and supply of Mobile Prosthetic Orthotics vans to serve in inaccessible and Tribal areas in Andhra Pradesh**	**4**	**1.40Cr**

Technical Specifications of Mobile Prosthetic Orthotics van

The Artificial Limb Care Van is a versatile light commercial vehicle designed for various applications. Below are its key specifications:

Engine and Performance:

- Engine: FM2.6CR ED, 4-cylinder, Common Rail, Direct Injection, Turbocharged Intercooled Diesel
- Displacement: 2596 cc
- Maximum Power: 115 HP (85 kW) @ 2950 rpm
- Maximum Torque: 350 Nm @ 1400-2200 rpm
- Transmission: 5-speed manual gearbox (5 Forward + 1 Reverse)
- Fuel Tank Capacity: 70 liters

Dimensions:

- Wheelbase: 4020 mm
- Overall Length: 6970 mm
- Overall Width: 2225 mm
- Overall Height: 2670 mm
- Ground Clearance: 180 mm

Capacity:

- Gross Vehicle Weight (GVW): 5700 kg
- Payload Capacity: 2515 kg

Interior and Exterior Dimensions:

- Load Body Dimensions:
  - Length: 4675 mm (approximately 15.35 feet)
  - Width: 2010 mm (approximately 6.6 feet)

Height: Not specified

Introduction The **Artificial Limb Care Van**, a mobile healthcare solution designed to bring essential prosthetic and orthotic services directly to underserved and remote communities. By delivering on-site care, it ensures accessibility, affordability, and convenience for individuals with disabilities, empowering them with mobility and independence.

Overview

a) **Objective**: Deliver prosthetic and orthotic care to underserved and remote communities.
b) **Mission**: Provide accessible, affordable assistive technology for individuals with disabilities.

Specifications

Vehicle

(a) **Type**: Modified commercial van (e.g., Traveller). **Dimensions**: Designed to accommodate up to 5 personnel and required equipment.
(b) **Power Supply**: Backup battery for operating tools and lights.

Onboard Facilities

Space for assessment, fitting, and customization.

a) Workbench for repairs.
b) Patient waiting area.
c) Basic diagnostic and first-aid equipment.

Personnel

a) 2 Prosthetists
b) 2 Technicians
c) 1 Support Staff

Equipment and Technology

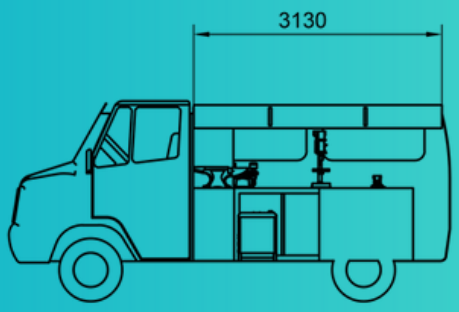
a) **Prosthetic and Orthotic Tools**: For fitting and customization.
b) **Digital Infrastructure**:

I. PC or Laptop for digital records and prosthetic design.
II. Printer for patient reports and documentation.
III. GPRS for vehicle tracking.
IV. Internet setup for communication and teleconsultation.

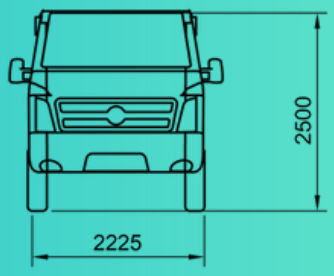
Expected Impact

a) Serves **100+ patients/month** in rural and remote areas.
b) Produces **4-5 prosthetics per day**.
c) Reduces travel burden for follow-ups.
d) Enhances mobility and quality of life.

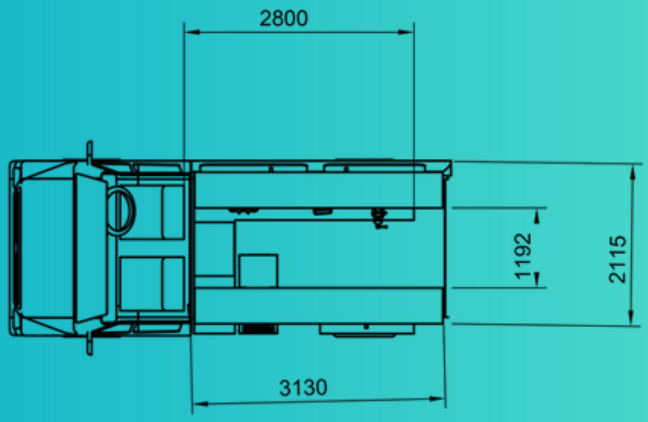
VAN INTERIORS



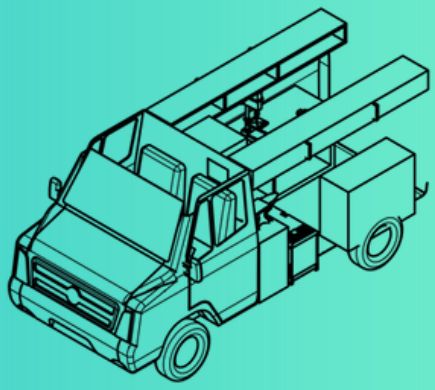
FRONT VIEW



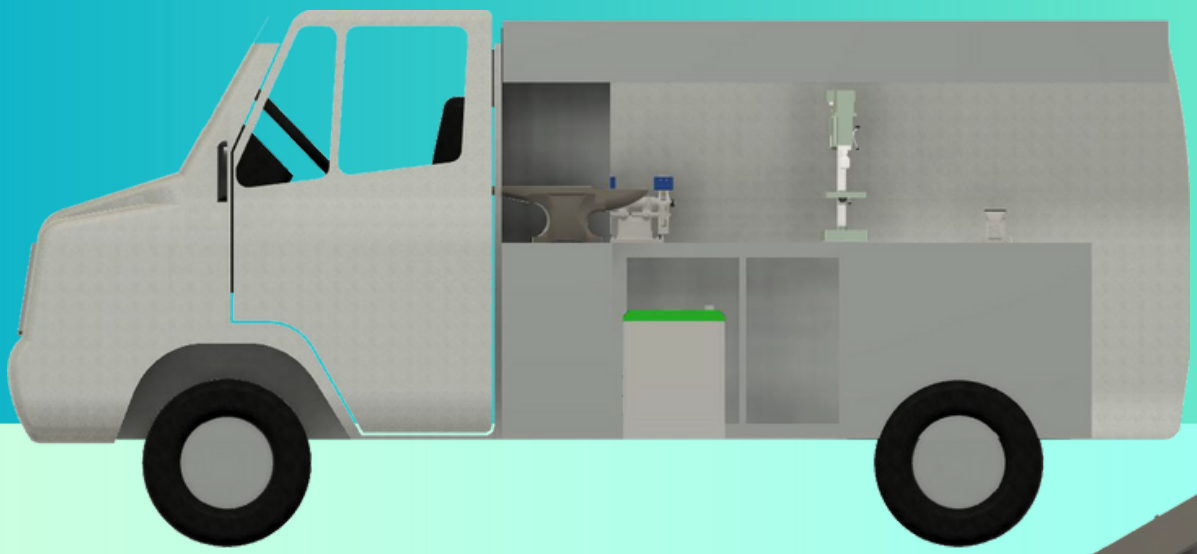
SIDE VIEW

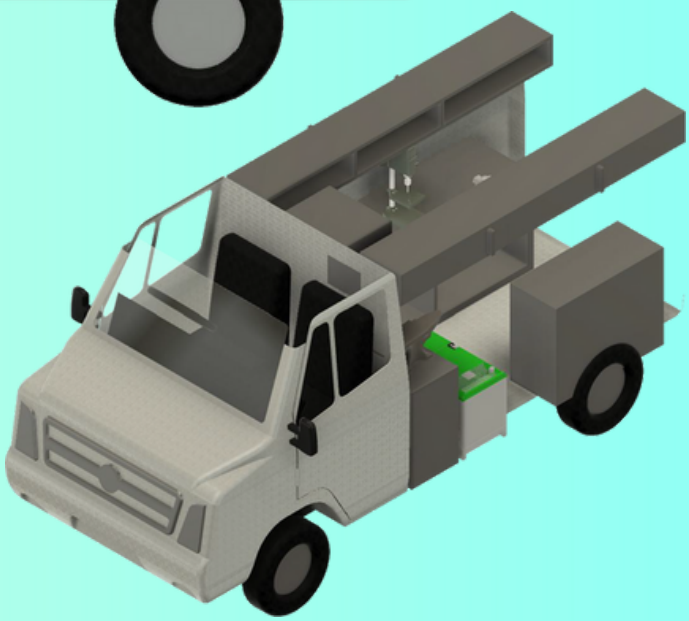


TOP VIEW



ISOMETRIC VIEW





List of equipments are required to make the Prosthetics & Orthotics in Mobile Vans.

1. Prosthetics & Orthotic Combined Electrical Oven Single Door
2. Draping Table with AK & BK draping frames
3. Work Bench
4. Portable Drilling Machine
5. Grinding Machine/Buffing Machine
6. Anvil
7. 4” bench vice & 6” Bench
8. Pipe vice 2”
9. Hand drill machine
10. Jig saw Machine
11. Hot air Gun
12. Suction Machine
13. Hand Tools for Prosthetics & Orthotics

Procurement and supply of Retrofitted Motorized Three-Wheeler in Andhra Pradesh

	Description	Qty	Estimated tender cost
1	A.P Differently Abled and Senior Citizens Assistance Corporation (APDASCAC) - **Procurement of retrofitted Motorized Three Wheelers for the persons with Locomotor Disabilities**	875	8.75Cr

Retrofitted Motorized Three-Wheeler Vehicle

Technical Specifications:

SL. No.	Description of the Item	Technical Specifications
1.	Engine Capacity (HP/CC)	100 CC and above
2.	Torque	8 NM and above
3.	Ground clearance	150 MM and above
4.	Tyres	Tubeless
5.	Fuel tank capacity	More than 5 ltrs.
6.	Fuel tank	Petrol filling must be outside of the seat.
7.	Pollution Standards	BS-VI
8.	Body type	Metal/Fiber/Plastic
9.	Vehicle Colour	Painting with specifications given by the Government on front & both sides of the vehicle. **Color as per the instructions of the Government.**
10.	Starting	Self Start system and Stop
11.	Brake System	Drum /Combi system with Parking Brake Provision
12.	Side Wheel attachments	Approved kit by ARAI

Instructions

- Retrofitting the two Wheelers for use of person with disabilities as laid down in MORTH (Ministry of Road Transport and High ways) notification RT-11012/12/12/01-MVL, dt.23rd July, 2008. The central Motor Vehicle rules, 1989 as amended and Motor Vehicles Amendment Act, 2017.

- While carrying out such a modification, it shall be ensured that minimum changes are made on the basic structure of the vehicle.

- In case the original vehicle has any foot controls (such as accelerator brake clutch or gear shift), such controls shall be adapted for operation by hand.

- The vehicle shall have a device (parking brake) to internally lock the wheels in order to prevent rolling of vehicle (in situations like alighting the vehicle, stopping in the vehicle on the gradient, etc., The vehicle shall have an electric – starting mechanism.

- Painting with specifications given by the Government on front & both sides of the vehicle.

- Clamping arrangements shall be provided for carrying persons aids/crutches etc.,

- Fitment of additional two wheels at the rear on both the sides:

- 2-wheeeler can be modified by fitment of additional two wheels to provide balancing/stability to the vehicle.

- The additionally fitted wheels shall have preferably the same size and specification of the original rear wheel.

- The retrofitment shall confirm to the ARAI specifications with regard to drawing, design and the spares used with ISI standards.

- The bidder shall enroll BS-VI standard invalid carriage model vehicles in the Masters of the A.P. Transport Department, Vijayawada.

Procurement and supply of Medical Equipment to Upgradation of PG seats in Existing Medical Colleges		
S. No	**Item Name**	**Qty**
1	800mA Digital Fluoroscopy Unit	10
2	Computerized radiography (CR) with single cassettes	10
3	Computerized radiography (CR) with multi cassettes	10
4	Digital Mammography System with Tomosynthesis	10
5	CR Cassettes	106
6	ICU Ventilator	20
7	Neonatal Ventilator	10
8	Pacemaker (Temporary) - Single Chamber	10
9	Holter Monitor	10
10	Treadmill Test System	10
11	Heart Lung Machine with TCM	10
12	Sternal Saw Handpiece	10
13	Anesthesia Workstation	37
14	Fibre Optic Laryngoscope	10
15	Multipara Monitor with IBP & ETCO2	10
16	Multiparameter Monitor with 2 IBP	10
17	Peripheral Nerve Stimulator	10
18	Pre sterile scope sets for Bronchoscope	10
19	3D Laparoscope	10
20	HD 3 chip laparoscopy set	10
21	Laparoscope Instrument set	10
22	General Surgery Instrument Set	10

800mA DIGITAL FLUOROSCOPY UNIT

Digital Fluoroscopy System with dynamic fixed Flat Panel Detector in Remote Controlled RF table & Unit should be capable of doing all types of Fluoroscopic examinations like GI examination, ERCP, barium studies, along with routine radiography procedures.
Technical Specifications:
X Ray Generator:

High Frequency X-Ray generator having Frequency of 100 KHZ or more should be provided.
Power output of generator should be 50 KW or more.
Radiography KV range should be 40 to 150 KV or more. **Fluoroscopy KV range should be 40 to 120 KV or more.**
mA range (Radiography.): up to 800 m A or more at 80 KV **mA range (Fluoroscopy): Normal fluoro mode: up to 3m A, HD/ Fluoro Cine mode: up to 6m A**
Exposure time (Rad.): l ms to 2 sec.or more **mAs range : 1 to 300 mAs or more**
Control Panel:
Digital Display of Radiography kV & mAs and Fluoro kV & mA and Cine kV & mA Spot kV and mAs.
Integrated touch panel TFT display for various X-Ray function and indications.
Exposure parameters can be controlled from Acquisition software as well as from Touch Panel Display.
Manual and Automatic brightness stabilization (ABS) in fluoroscopic Modes.
Exposure indication on Acquisition Software.
Self-diagnostic Program with Indicators for Earth fault error, kV error, Filament error & Tube's Thermal Overload, Rotor fault and Phase failure indications.
Foot switch is provided for initiating the exposure for performing Fluoro and Cine and Digital Spot Procedures
2-Point mode and 3-point mode exposure technique for manual exposures in Radiography mode.
X Ray Tubes:
One No Dual Focus Rotating Anode thermally protected having focal spot of 0.6mm &1.2mm
Anode rotation speed should 9000RPM minimum
Anode heat storage capacity of tube should be more than 600 KHU.
Collimator with white LED bulb with provision for auto cut off after 45 seconds

HV Tank:
A very compact HV tank filled with Dielectric transformer oil should be provided. The HV tank should contain HV transformer, filament transformers, HV rectifiers & HV cable receptacles.
X Ray Tubes:
One No. Dual Focus Rotating Anode thermally protected having focal spot of 0.6mm &1.2mm
Anode rotation speed should 9000 RPM minimum
Table:
Remote controlled, motorized RF Table should be provided. Table should have integrated console. Table should have scratch resistant tabletop.
Table should have soft start and stop with following minimum features.
Motorized Tilt: Vertical +90º to -30º or more Trendelenburg.
Table has automatic stop at Horizontal & Vertical position during tilt movement
Motorized Transverse movement of tabletop:30cm or more
Motorized Longitudinal movements of imaging unit i.e Tube column – detector movement: 100cm or more.
Integrated bucky for flat panel detector for general radiography and fluoroscopy.
Remotely operated compression device.
Foot switch for releasing fluoroscopy and acquisition.
Patient weight carrying capacity: 250kg.
Intercom system to communicate with the patients.
Table accessories: 1No. Each Handgrip, compression band, footrest.
Detector:
Digital solid state Flat Panel Detector should have a detector size of 14x14" (35x35cm), image matrix size of 3K x3K or more with A/D conversion of 16bits, Pixel size of less than 140µm and detector resolution of 3.3. lp/mm with DQE of 65% or more
Image acquisition software:
Should have features such as

Exposure modes: RF (Flouro, Cine and Spot), DX (Radiography)
Frame rate of: Up-to 15 FPS Pulsed X-Ray, with 1024×1024 (1K×1K Image resolution) with live and reference examination layouts.
Parameters such as WW/WL, Zoom, Flip, Frame rate, software shuttering
Automatic WW/WL adjustment for Radiography, Automatic WW/WL adjustment for Fluoro, Cine, Spot according to the selected procedures
Post processing Parameters: WW/WL, Zoom, Magnify, Invert, Flip Horizontal, Flip Vertical, Annotations, Image Layouts, Play DICOM Loops, Frame by Frame Image View, Software Shutter, Crop, Tagging of Images, Angle and Length measurement. Image stitching with provision of 4 or more image stitching should be provided. Necessary hardware as well as software should be provided.
Image Acquisition System Configuration: Image Acquisition system with Intel core i7 processor (3.1GHz), 16 GB RAM, 1TB HDD & 500GB SSD and OS Windows 10 or latest, 64Bit or Higher. 27" wide screen Monitor with 4K Resolution (2 Nos.), 3KVA online UPS , High Resolution Graphic Card, Gigabit LAN Ports (3 No.)
Additional reporting workstation with 19" Medical display monitor with DICOM Store, DICOM Print to be provided
Accessories:
Machine should be supplied with 4 No. light weight whole body lead aprons.
Power Supply:
Power unit: Input voltage- 400V-440V AC, 50 HZ; 3 -phase
Stabilizer of appropriate capacity to be installed.
Availability of three phase uniform power supply.
Should be USFDA/European CE/BIS approved product
Manufacturer or Supplier should have ISO and ICMED certification for quality standards.
The model should have AERB type approved.
Warranty 3 Years warranty from date of installation. Spares and support for the system must be provided for the next 10 years CMC rates for next 7 years to be provided.
A separate toll-free number to be provided for attending all govt hospital break down calls within 24 hrs of break down.
Turnkey: The bidder/supplier should verify the site of installation prior and must quote separately for the necessary civil works and electrical works needed for installation

of the equipment.

Computerized radiography (CR) with single cassette Loader
Image Recording System (Cassettes & Imaging Plates)
PSP image plates and cassettes approved for general radiography and mammography use must be quoted with the system. The image plates should be rigid type for improved life and to reduce artefacts from dust or roller marks.
Cassettes with Image plates:
14" x 17" ----------04 nos
10" x 12" ----------02 nos
10"x 8" ----------02 nos.
Image Reading (CR Reader / Digitizer)
a. It should be able to process standard size cassettes.
b. It should have grey scale resolution of 16 bits / pixel
c. Time to preview image of should be less than 30 secs
d. The scanning resolution of 10 micron (10 pixel/mm) should be available for all cassette sizes
e. The highest through put should be 60 plates/hr or better of the largest size cassette at 10 pixels/mm
f. It should have auto cropping feature to remove the unexposed pixels. This is to avoid zooming when smaller body parts are examined with larger image plates.
g. The digitizer should have the capability to change the scanning resolution depending upon examinations i.e. at 5 pixel/mm, 6.6 pixel/mm & 10 pixel/mm
Processing Sever/CR Workstation with 19" LCD or LED Panel
a. PC based unified server. Workstation for centralized patient identification & management of Images / Studies. A separate viewing console with 19" LCD or LED Panel to be provided along with the main work station.

The RAM should be minimum 16GB with 500 GB SSD and 1 TB hard disk at least. The storage capacity more than 20,000 images in both workstation and viewing station.
b. Process of identification should be ready for interface with existing Hospital Information System (HIS) or Radiology Information System (RIS) in DICOM protocols
c. This server must provide display of acquired images with greater details of demographics, like patient / study listing for easy access.
d. This server provides full amount of post processing features like Geometric Corrections, Window / Level, Algorithms, stitching software, Annotations such as markers, predefined texts, drawing lines and geometrical shapes, measuring distances and angles and determining leg length differences, Shuttering, histograms, Zoom, Grey Scale Reversal, Edge Enhancement, Noise Reduction, Indicate Grey Scale Saturation Level, Latitude Reduction.
e. This terminal must provide a full fledge DICOM printing. Should be able to print in multiple formats (minimum 4) of a patient study, print a True Size image on any size of film.
f. Should be able to send DICOM images to a DICOM viewing stations or PACS.
g. Should be equipped with DICOM CD writer for allowing examination of a patient to be written onto a CD in DICOM format for referral purposes.
h. All the software's the digitiser and the printer must from the same manufacturer and the quoted model should be CE/FDA Approved.
i. It should possible to send images to the PACS installed at the hospital
Interconnectivity
a. Interconnectivity between various CR modules should be Ethernet/TCP IP Based i.e. RJ 45 Connection (10/100 Base T/LAN)
Accessories
a. Application related software like black border / black masking should be available
b. A set of CR image plate cleaner should be supplied with the unit
U.P.S: A suitable UPS with at least 60 minutes back up should be quoted with the system. 1.5-ton AC to be supplied for the CR room.

Note: Price to be quoted separately for empty shell/cassette and imaging plate price for mammography compatible software and cassette to be quoted separately.
Warranty: 3 years warranty from date of installation. Spares and support for the system must be provided for the next 10 years. CMC rates for the next 7 years to be provided.
A separate toll-free number to be provided for attending all Govt hospital Breakdown calls within 24 hrs. of breakdown.
Turnkey: The Bidder/supplier should verify the site of installation prior and must quote separately for necessary civil works and electrical works needed for installation of equipment.

Computerized radiography (CR) with multi cassettes loader
Image Recording System (Cassettes & Imaging Plates)
PSP image plates and cassettes approved for general radiography use must be quoted with the system. The image plates should be rigid type for improved life and to reduce artefacts from dust or roller marks.
Cassettes with Image plates:
14" x 17" ----------04 nos
10" x 12" ----------02 nos
10"x 8" ----------02 nos.
Image Reading (CR Reader / Digitizer)
a. It should be able to process standard size cassettes.
b. It should have grey scale resolution of 16 bits / pixel
c. Time to preview image of should be less than 30 secs
d. The scanning resolution of 10 micron (10 pixel/mm) should be available for all cassette sizes
e. The highest through put should be 80 plates/hr or better of the largest size cassette at 10pixels/mm

f. It should have auto cropping feature to remove the unexposed pixels. This is to avoid zooming when smaller body parts are examined with larger image plates.
g. The digitizer should have the capability to change the scanning resolution depending upon examinations i.e. at 5 pixel/mm, 6.6 pixel/mm & 10 pixel/mm
Processing Sever/CR Workstation with 19" LCD or LED Panel
PC based unified server. Workstation for centralized patient identification & management of Images / Studies.
a. A separate viewing console with 19" LCD or LED Panel to be provided along with the main work station.
The RAM should be minimum 16GB with 500 GB SSD and 1 TB hard disk at least. The storage capacity more than 20,000 images in both workstation and viewing station.
b. Process of identification should be ready for interface with existing Hospital Information System (HIS) or Radiology Information System (RIS) in DICOM protocols
c. This server must provide display of acquired images with greater details of demographics, like patient / study listing for easy access.
d. This server provide full amount of post processing features like Geometric Corrections, Window / Level, Algorithms, stitching software, Annotations such as markers, predefined texts, drawing lines and geometrical shapes, measuring distances and angles and determining leg length differences, Shuttering, histograms, Zoom, Grey Scale Reversal, Edge Enhancement, Noise Reduction, Indicate Grey Scale Saturation Level, Latitude Reduction.
e. This terminal must provide a full fledge DICOM printing. Should be able to print in multiple formats (minimum 4) of a patient study, print a True Size image on any size of film.
f. Should be able to send DICOM images to a DICOM viewing stations or PACS.
g. Should be equipped with DICOM CD writer for allowing examination of a patient to be written onto a CD in DICOM format for referral purposes.
h. All the software's the digitiser and the printer must from the same manufacturer and the quoted model should be CE/FDA Approved.
Interconnectivity
a. Interconnectivity between various CR modules should be Ethernet/TCP IP

Based i.e. RJ 45 Connection (10/100 Base T/LAN)
Accessories
a. Application related software like black border / black masking should be available
b. A set of CR image plate cleaner should be supplied with the unit
U.P.S: A suitable UPS with at least 60 minutes back up should be quoted with the system. 1.5-ton AC to be supplied for the CR room.
Note: Price to be quoted separately for empty shell/cassette and imaging plate price for mammography compatible software and cassette to be quoted separately.
Warranty: 3 years warranty from date of installation. Spares and support for the system must be provided for the next 10 years.CMC rates for the next 7 years to be provided.
A separate toll-free number to be provided for attending all Govt hospital Breakdown calls within 24 hrs. of breakdown.
Turnkey: The Bidder/supplier should verify the site of installation prior and must quote separately for necessary civil works and electrical works needed for installation of equipment.

TECHNICAL SPECIFICATIONS FOR DIGITAL MAMMOGRAPHY SYSTEM WITH TOMOSYNTHESIS

	Full field digital mammography system with state-of-the-art facility, latest technology for detection of breast cancer with standard facility of Digital Breast tomosynthesis.
	The system should have the following essential features:
I	X-RAY GENERATOR:
1.	**High frequency generator.**
2.	**Power output should be 4KW or more. mention the mA range, kv range, exposure time range**
3	**Display of parameters kV, mAs, target filter, density selection.**
II	X-RAY TUBE UNIT:
1	**Dual track with Dual focus**
2	**Focal spots of size 0.1mm and 0.3mm on the anode are required. Please mention the material of anode.**
3	**Anode heat storage capacity should be at least 150 KHU.**
4	**Specify the material used for filtration in the tube.**
III	GANTRY ASSEMBLY:
1	**The system should have fully motorized rotation and up / down movement.**
2	**The angle of C-arm movement should be at least +180° to -150°.**
3	**The patient compression device should be motorized, automatic, controlled by foot paddles as well as from gantry and should have multispeed variable system. Mention the compression modes available along with force range.**
4	**Control buttons for adjustment of height and angles should be operable from gantry as well as from foot paddles.**
5	**SID should be in the range of 650mm to 700mm.**
6	**Programmable auto positioning from acquisition work station should be available.**
7	**Magnification factor should be minimum 1.8 or 1.5**
8	**Grid ratio should be 5:1 with at least 30 lines per cm.**
9	**The following paddles one each should be supplied as standard.**
	a. Large paddle for 18x24 cm and 24x30cms
	b. 1.5 times or more Magnification attachment with spot and field magnification paddles
IV	EXPOSURE CONTROL
1	**Should have manual, semi-automatic and automatic mode (AEC) techniques**
2	**The anode track and filters shall be selected automatically and manually.**
3	**Should have the display facility of all parameters of**

CR Cassettes

1. **The image plates should be rigid type for improved lite and to reduce artefacts from dust or roller marks.**
2. **The image plate of all sizes supplied should have three years comprehensive warranty and should be covered under the CMC rates offered any detect the image plate shall be replaced at free of cost during the warranty period and CMC period**
3. **Price to be quoted separately for empty shall & imaging plate and will be taken for evaluation**

CR Cassettes (Make: Fujifilm)

SIZE	Compactable to
CR Cassettes 12x10	FUJI
CR Cassettes 17x14	FUJI
CR Cassettes 10x8	FUJI

SIZE	Compactable to
CR Cassettes 12x10	AGFA 30X
CR Cassettes 12x10	AGFA DX-M
CR Cassettes 17x14	AGFA 30X
CR Cassettes 17x14	AGFA DX-M

The separate toll-free number to be provided for attending all government hospital break down calls with in 24 hours of break down.

SPECIFICATION FOR ICU VENTILATOR

1. Should have facility for Invasive and Non-Invasive ventilation

2. Microprocessor Control suitable for Paediatric and adult ventilation.

3. An electromagnetically compatible hinged arm holder is used to hold the circuit.

4. Should have built-in touch colour screen TFT display of minimum 15" or more for display of waveforms and Monitored value. It should have both Touch Screen and Encoder Knob access simultaneously. The Display should be integrated and additional external Display will be not be accepted.

5. Should have an inbuilt facility to upgrade with EtcO2 & Spo2 Monitoring

6. Facility to Measure and display: -

a) Status indicator for ventilator mode.

b) Battery indication.

c) Press vs Time, Flow Vs Time, Volume Vs Time, Optional- Spo2 and Co2 waveforms.

d) Alarm setting

e.) Press Vs Flow, Volume Vs Flow, Press Vs volume, Volume Vs Co2 and Vol Vs FCo2 loops.

7. It should have different colour-coded displays for inspiratory and expiratory phases, trigger modes, and Windows.

8. Should be able to display 3 waveforms and two loops simultaneously in a single screen during ventilation.

9. Automatic compliance and leakage compensation for circuit and ET Tube. ET tube compensation should be applicable for the inspiration and expiration phase

10. Should have facility of log book, for events and alarms with date & time

11. Should have the following settings.
a) Tidal volume (Minimum tidal volume of 2ml is allowed, Maximum up to 2000ml)
b) Inspiratory Pressure (up to 120 cm of H20)
c) Respiratory rate 0 to 200 bpm.
d) Apnoea back up rate.
e) CPAP/PEEP
f) Pressure support. (up to 120 cm of H20)
g) Fi02 (Galvanic O2 cell covered under 3 years warranty)
h) Pause Time & Flow cycling

i) Pressure & flow Trigger
j) Inspiratory flow up to 180 Lpm

12.Monitoring and Display of the following Parameters.

a) Airway Pressure (Peak & Mean).
b) Tidal volume & Minute volume
c) Driving Pressure
d) Respiratory mechanics.
e) Lung Protective Monitoring.
g) O2 Consumption
i) Plateau Pressure.
j) Resistance & Compliance.
k) Use selector Alarms for all measured & monitored parameters.
l) Occlusion Pressure.
m) Pressure Flow & Volume curves.

13.Modes of Ventilation equipped with newer modes of ventilation: -
a) Assist /control.
b) Volume Control.
c) Pressure control.
d) Pressure support.
e) SIMV with pressure support (Pressure and volume control).
f) PEEP.
g) Inverse ratio Ventilation.
h) Non invasive ventilator- BIPAP, CPAP.
i) Apnea Ventilation, User selectable, volume & pressure control.
Should have additional Advanced Modes:
PRVC + SIMV
Volume support
MMV
Adaptive ventilation mode such as ASV or AVM or MASV or AMV is a must.
High Flow oxygen therapy facility should be present as standard
Non-Invasive Ventilation should be possible in both Volume and Pressure modes.

14.Should have built in safety alarms for Airway Pressure High & low, Minute volume, High & low, power failure, Low oxygen, High Respiratory Rate, Air Source in-operable.

15.Should operated on Built in Turbine facility backed up by the Internal Rechargeable Battery during AC mains Failure. Should operate with both High Pressure and Low flow oxygen input.

16.Should support procedures like
P/V Flex points, P0.1, Slow Vital Capacity, Plmax(Inf), Trapped Volume,

Should have lung mechanics monitoring with numeric display of resistance, compliance, lung over distension index (C20/C) to avoid lung over distension index Time Constant Tc, 16. Should have compatibility with existing central Oxygen pipe line.

17.Should be supplied with Humidifier as standard.
a) Electronic heated Respiratory Humidifier.
b) Temperature of delivered Gas on LED display.
c) Temperature should be adjustable.
d) Jar should be autoclavable

18.Quality Certification: Standards like ISO 13485 & USFDA/European CE – 4 digit etc/Notified CE. Quoted model should have CDSCO Import / Manufacturing Licence.

19. Should have IEC60601 test certificates for the quoted model and should be submitted with the bid.

20.Demonstration of the quoted model is must, preferable on site

21. Should have inbuilt Nebuliser synchronised with Inspiration and Nebulization assembly compatible with ventilator and circuit should be provided as standard

22.Should have Facility for Auxillary Pressure monitoring for monitoring Esophageal pressure.

23. Should have communication interfaces such as Nurse call, RJ-45, RS232, HDMI, USB and should be HL7 compatible.

24. Flow sensor should be differential pressure technology or Hotwire Flow sensor must be at expiratory end. Should be maintenance free reusable and autoclavable.

25. Expiratory Unit should be reusable and autoclavable type. Valve response time should be atleast 10mSec.

27. Oxygen sensor should be of Galvanic type (covered under 3 years warranty with free replacement).

28. Data storage facility for at least 240hours or more

29. Internal rechargeable battery for atleast 3hours or more, backup

30. Should have flow sensors having long life and the company shall specify the life cycle and the cost of the flow sensors, Humidifiers and other consumables/ accessories at the time of quoting the tender

31. CMC/ AMC for the least 7yrs and availability of consumables and spares till 10 years.

32. Warranty 3 years from the date of installation

33. Standard Accessories along with:
a) Patient breathing circuit of silicone for Adult &Paediatric (reusable).
b) Non invasive ventilator mask reusable for adult (3 sizes) and paediatric according to age- 4set each.
c) HME filter – 10

SPECIFICATION FOR NEONATAL VENTILATOR

1.Advanced microprocessor based neonatal ventilator for very low body weight infants (premature, new-born)- 400gm to 20Kg. The Neonatal mode should be dedicated with a reusable proximal flow sensor.

2.The neonatal ventilator should have the following ventilation modes: PLV, PCV, P-SIMV, CPAP/PS, APRV, DuoPAP, nCPAP and Volume Guarantee.
Should have High Flow Nasal cannula Therapy mode

3. Should have built in touch color screen TFT display of minimum 15" or more for display of waveforms and Monitored value. It should have both Touch Screen and Encoder Knob access simultaneously. The Display should be integrated and additional external Display will be not be accepted. Should display minimum 3 graphs and 2 loops simultaneously in a single screen.

4.Should have settings for
a. Peak Inspiratory Pressure : 1to 80 cmH2O
b. PEEP : 0 – 20 cmH2O
c. Fraction of inspired oxygen : 21 – 100%
d. Inspiratory Time : 0.1 – 3 sec
e. Expiratory Time : 0.05 – 30 sec or automatic
f. Inspiratory flow : 1 – 30Lpm
g. Rise Time: 0 to 2.0secs
h. Volume guarantee : 2 - 100ml
i. Respiratory Rate : 0 - 200 bpm
j. Tidal volume range should be minimum of 2 ml to maximum of 300 ml or more
k. Should have both Flow and pressure triggering facility.
5.Should have real time monitoring for:
a. Pressure – Peak, Plateau, Mean, PEEP
b. Expired Tidal Volume (Monitored), Expired Minute Volume, leakage in %.
c. Frequency/Rate – Set (Inspiratory), Spontaneous rate, Spont TVe, total, I.E ratio
d. FiO2, Pressure and Flow wave forms and loops
e. Should have lung Mechanics monitoring with numeric display of Resistance, compliance, Time Constant Tc (C/C20)

6.Should have in built rechargeable battery backup for minimum 180 minutes for ventilator

7.Should have automatic compliance and leak compensation for circuits and ET tubes

8.Should have backup ventilation / apnea alarm in CPAP/PSV.

9.Expiratory Transducer/ sensor/ valves should be sterilizable and reusable. Valve response time should be atleast 10mSec.

10.Should have automatic alarm settings

11. Should have inbuilt Nebuliser synchronised with Inspiration and Nebulization assembly compatible with ventilator and circuit should be provided as standard

12.It should have trending of measured parameters upto 240 Hrs

13.Alarm can be manually adjusted along with audio and visual alarms for:
a. High/low pressure
b. High/low Minute Volume/Tidal Volume
c. Apnoea alarm
d. Compressor failure
e. Failure of Sensor's
f. Tube obstruction
g. Power failure
h. Ventilator failure

14.Standard accessories (for each equipment)

A. Standard accessories to be supplied with each Equipment
a. Modular corrosion free Original Trolley
b. Servo controlled humidifier with heated wire type and reusable chamber
c. Temperature probe & adaptor-1No
d. Original Hinged arm for rail (support for patient circuit)
e. Neonatal Test Lung-2Nos
f. Hose plug for O2 and air-1each
g. Expiratory Valve per ventilator-2Nos
h. Dual heated reusable silicon neonatal patient circuit – 2Nos.

15. Should operated on Built in Turbine facility backed up by the Internal Rechargeable Battery during AC mains Failure. Should operate with both High Pressure and Low flow oxygen input.

16.Replacement guarantee should be provided for battery, expiratory valve and oxygen sensor for the entire 3 years warranty period and also the rate offered for

CMC should include the replacement guarantee for battery, and oxygen sensor and expiratory valve.

17.The PM KIT shall be replaced at free of cost during the warranty and CMC period when ever required as per the recommendation of manufacturer

18.Trolley/ Cart mounting for easy transport

19.Should work with input 200 to 240Vac 50 Hz supply

20.PEEP valve should be built in

21.Patient circuit with water trap

22.The unit rate of Flow sensor, humidifier and other consumables/ accessories shall be quoted separately which will not be taken for evaluation

23.Should have proximal sensor for real time monitoring of flow at Y-piece

24. Quality Certification: Standards like ISO 13485 & USFDA/European CE – 4 digits/Notified CE. Quoted model should have CDSCO Import / Manufacturing Licence.

25. Should have IEC60601 test certificates for the quoted model and should be submitted with the bid.

26.Demonstration of the quoted model is must, preferable on site

Specifications for the Department of Cardiology

1.Pacemaker (Temporary) - Single Chamber

1. Should be a Single Chamber Pacemaker (Temporary) for bradycardia treatment before, during or after a surgery.

2. Stimulation burst and permanent stimulation should be available for high pacing rate.

3. Should be compact & easy-to-operate device, particularly suitable for emergency treatments.

4. Safety features, including automatic lead and battery check.

5. Should have continuous monitoring of the battery voltage.

6. Should have transparent cover for parameter protection.

7. Should have shock and water-resistant housing.

8. Should have back up pacing during battery change.

9. Should have Modes AOO, AAI, VOO, VII

10. Should have pacing rate 40-180 ppm.

11. Should have fast pacing (Burst rate) of 80-200 ppm.

12. Should have Pulse Amplitude of 0.1-17V

13. Should have sensitivity 1.0-20mV

14. Should have minimum battery backup > 200 hours.

15. Should have safety certificate from a competent authority CE issued by a notified body registered in European Commission / FDA (US)/Notified CE and valid detailed electrical and functional safety test report from ERTL. Copy of the certificate / test report shall be produced along with the technical bid.

2.Holter Monitor

1. PC Supported System with following specifications

a) Intel I5 processor
b) Windows licensed inbuilt OS
c) 8 GB RAM
d) 1 TB HDD
e) Monitor 21 inch or more
f) Computer table

2. Saved data should be read using integrated reading device

3. Three channel ECG recording facility

4. Supporting hardware with suitable software and laser printer

5. Adult patients

6. 5 or 7 lead cable

7. Automatic cable type detection

8. Light weight

9. 24hrs, 48hrs, 7 days

10. True signal quality check with amplitude indication

11. QT/ST Analysis

12. LCD/LED Screen

13. Shock and splash-proof design

14. Suppress artifacts

15. Available scroll function for the over view (Super page) of the ECG

16. Should be able to reedit individual form classes

17. Should be able to consolidate individual form classes

18. System should be capable of analysing various arrhythmias like ventricular ectopic, supraventricular ectopic, ventricular tachycardia, ventricular fibrillation, supraventricular tachycardia, atrial fibrillation, sinus pause

19. Operator should be able to edit and reclassify beats and arrhythmias

20. ST segment analysis should be available for all three channels

21. Any ECG print out should be possible

22. Report format should include covering page, arrhythmia analysis report, ST segment analysis, automatically and manually selected ECG strips

23. Should provide rechargeable battery and charger for recorders. Each recorder should be provided with 4 batteries and one charger

24. Unit should be CE4 digit/USFDA/BIS Certified.

25. 3 Years warranty and 4 Years CMC.

3.Treadmill Test System

System Hardware

1 System should acquire 12 lead ECG simultaneously

2 System should be able to convert analog ECG signal to Digital signal at the patient end through Wireless Acquisition Module.

Software features:

• Should be able to record Resting ECG. Exercise ECG.

• In Resting ECG should have Interpretation Software for adults and pediatrics, simultaneous 12- lead ECG analysis program

• Should have Interpretation

• During exercise mode system should display following parameters on the single screen during exercise mode.

1 12 lead raw ECG with average complexes

2 Real time ST analysis& ST-HR trends of all 12 leads

3 Enlarged QRS complex with Dynamic scanning

4 Protocol, METS, Max FIR, Target HR, Current HR, BP. Stage time, exercise time. treadmill speed & grade

5 HR detection lead, mains filter status, amplitude.

6 Should have Duke treadmill score, ST/HR slope, ST/HR loop

7 Should have QT correction: Bastet, Frederician, Framingham or Hodges

8 Should have Lead selection: Right precordial. left posterior. Frank. Neha

9 Should have Computerized measurements: - QT Dispersion -Averaged measurements

• System should have prompt for BP entry

• System should have automatic BP measurement Device from Reputed make

• System should have customized lead sequence display.

• Should have multiple screen formats (6x2, 3x4, 3x 2 etc.)

• System should have facility for Online enable or disable stage wise printouts

• Software should be able to display full disclosure of all 12 leads

• User should be able to mark the ECG waveform to enter comment at any stage.

• System should provide facility to hold the stage

• Software should have facility to change the background, grid lines, trace colors System software should have grid at the background of tracing to measure the ST levels manually.

• Should have facility to store & recall the complete test and revalidate the ECG

• System should be able to view & print ST graphs & tables

• System should have facility to email the test as an pdf file

• System should have shortcut keys for operating important functions

• Should have automatic Blood Pressure Measurement Unit which should be integrated with the stress system for measurement during exercise.

• Should have at least 21"- 25 “Touchscreen display

• Should have Licensed Windows

• Processor Intel i5-i9 65000 CPU g3.20GHz.

• RAM: 4GB- 8 GB

• I-MD: 500GB – 1 TB

• Wireless keyboard & Mouse with BT USB dongle.

• Should have Color Laser Printer with Scanning Facility

Wireless Acquisition Module should have following features

• Should be light weight less than 120 gm inclusive of batteries

• Should work with 2 AA rechargeable batteries

• Should have Charging time less than 200 minutes

• Should have Battery capacity of at least 30 – 60 hours of Continuous display.

• Should get connected with system with Bluetooth

• Should have a safety feature like pairing to proper data transfer

System should have following printout settings: -

• Print raw rhythm during online stage wise printouts

• Printouts should be on ordinary pre-printed graph papers through laser or desk jet printer.

• Multiple print formats in landscape or portrait

• Facility to print the complete test report in review mode with a single click of mouse.

• Facility to mark the strip & take the print of marked strips

• Facility to print the ECG of any time

• Stress Test System should be US FDA/CE 4 digit/BIS approved

System should he provided with heavy duty noiseless Treadmill with following specifications - Should have 3 Phase 21-1P AC Motor with self-cooling

• Should have user weight up to 100 – 300 kg.

• Should have running area of more than 510 x 1520 mm – 600 X 1600

• Should have Speed Range of 0.8 to 25 kmph

• Should have Grade Range: 0-25%

• Should have Interactive shock cushioned deck for patient comfort & safety

• Should have Auto tensioning drive system

• Should be supplied with suitable Servo Stabilizer

• The Treadmill and stress test should be from same company

• Should be supplied with suitable online UPS for 2 – 5 hr battery backup for whole system

Specifications for the Department of CTVS

1.Heart Lung Machine with TCM

1. The system should work on 220V/50Hz, single phase AC.

2. Machine should have internal rechargeable batteries.

3. Batteries should be capable of providing power to the fully loaded system for minimum 60 minutes.

4. Two unidirectional hand cranks should be available as an additional critical safety feature.

5. Five roller pumps should be available in 3 large and 2 small raceways for adult and pediatric patients. The pump should be controlled from the central control monitor and from the pump itself and all the pumps should be inter changeable. The small pump should be able to incorporate tubing sizes ¼" and 3/8".

6. The base should provide at least 5 dedicated connections for the pumps, which can be mounted on the base or on the pole close to the surgical field to minimize tubing lengths and also the floor space. There should be option for selection of desired number of pumps. (Dual pump will be counted as only one pump).

7. Pump should display tube size, RPM rotation directions, speed flow rate, safety, status and error message.

8. Facility of monitoring all patient parameters; pumps status, patient information entered or system setting should be available on the touch screen of the central control monitor. One touch should provide any menu on the screen.

9. The screen should automatically change if any alarm condition arises thus altering the Perfusionist to take immediate remedial action. Important patient parameters should remain displayed.

10. The central control monitor should be able to configure 10-14 different perfusion screens for different equipment setups and perfusion protocol setups.

11. For interface between an appropriate type of sensor or device and the system, modules should be provided which are easily changeable. Minimum 10 slots for such modules should be available. 12. There should be facility to adjust occlusion on running-pump.

13. A gas blender should be provided.

14. There should be option for pulsatile flow operation.

15. Facility should exist such that any pump can be designated as Arterial or Cardioplegia pump.

16. Facility for setting Cardioplegia volume, dose delivery and time on the Central Control Monitor should be available.

17. There should be option for master follower operation for multidosecardioplegia.

18. Each roller pump should have magnetic interlock switch so that pump operates only when pump is controlled to protect against pump jam.

19. Should have self-adjusting tube-size clamp

20. The temperature control system should operate on 220V/50Hz single-phase supply.

21. Should be capable of rapidly providing hot and cold water for heat exchanger system in CPB machine and also for delivery of controlled-temperature-cardioplegia.

22. The control system for water bath should be microprocessor based. The range of available temperature setting should be 4-42 degrees Celsius and visible as digital display. Incremental control of temperature by each 1 degree Celsius should be available.

23. TCM should have separate port for supplying temperature-controlled water to the patient blanket.

24. The hot water circulating system should have a reservoir capacity of 5-6 litres and cold system reservoir capacity should be 7-8 litres.

25. Heat exchanger supply port should have a minimum supply of 15.0 l/min for highly responsive fast cooling & rewarming.

26. TCM system should have separate ports to drain water from the cold and hot tanks.

28. It should have valid quality certification. General Conditions applicable to each tendered equipment:

1. There would be guarantee (with spares) for five years and additional warranty for five years.

2. The product should be quoted with all the accessories. The price of all the accessories should also be quoted separately.

3. The price of major spares parts should be quoted separately. The price would be fixed for the warranty period.

4. The product or its earlier model should have been marketed in the national and international market for at least 10 years.

5. The parent company should certify that the quoted product is not going to be out of assembly line for at least three years from date of bid.

6. The parent company should give the undertaking to provide the spares during the warranty period, if required.

7. If the equipment is software based, and new software is introduced within five years, the up gradation will be provided free of cost.

2. Sternal Saw Handpiece

1. Charger unit should have facility for charging 4 batteries at a time.

2. Sternal Saw Hand piece

a. Reciprocating blade type

b. Should be autoclavable

c. Light weight

3. Resternotomy Saw Hand piece

a. Oscillating blade type

b. Sector type blade

c. Should be autoclavable

4. Should be supplied with tool kit and special container for the system.

5. Should have blade guard.

6. Should have Sternum Saw blade (set of 5).

7. Should have Resternotomy Saw blade (set of 2)

8. Should have large Li-ion batteries and small Li-ion batteries

9. Should have safety certificate from a competent authority CE issued by a notified body registered in the European commission / FDA (US)/Notified CE and valid detailed electrical and functional safety test report from ERTL. Copy of the certificate/ test report shall be produced along with the technical bid.

10. 3 Years warranty and 4 Years CMC.

SPECIFICATIONS FOR THE DEPARTMENT OF ANESTHESIOLOGY

1. ANESTHESIA WORKSTATION

Sl No	Technical Specification
A	**Basic Unit**
1.	The Unit should be a cost effective, flexible anesthesia workstation for performing and monitoring inhalation anesthesia, suitable for adult as well as neonate.
2.	The Anesthesia Workstation should have In-Built Ventilator with Colored minimum 7.5-inch TFT display, integrated CO2 absorber, vaporizers. All these components should be of the same manufacturer or brand with their label on each component.
3.	The unit should be able to connect to Central pipeline and there should be provision of one PIN Index Yoke to connect to One Emergency Gas Cylinder of O2 and N20 each. Pipeline inlet for Oxygen, Air, Nitrous Oxide. Colour coded gauges for cylinder and pipeline supply should be present.
4.	The unit should be Trolley type with 4 Wheels and min 2 Drawers and the front wheels should have locking device.
5.	Gas delivery system: Machine shall provide dual cascading Rota meter for O2 and N2O and single for Air for accurate mixing. It should work for lowflow.
6.	Hypoxic guard to provide a nominal minimum 25% concentration of oxygen in O2/N2O mixture. It should have a proven hypoxia guard design.
7.	Oxygen flush: Range: 25 to 75 L/min

8.	It should be equipped with Power on self-test routine, and machine overall checkout for leaks as well as leak test per individual vaporizers.
9.	The unit should have common gas outlet for using open circuit or vice-versa. When using open circuit, status should be shown /indicated in display.
10.	International Standards: The unit should comply with International Standards and should have European 4-digit CE Marking/US FDA/BIS – Medical Devices Certification.
B	**Breathing Systems (Close Circuit System)**
11.	It should be integrated to the CO2 absorber of minimum 800 gms and CO2 absorber should be Single/Double chamber design having easy removal and re-fitting during the operation, with CO2 bypass capability.
	Technical Specification
12.	The breathing system should have fully autoclavable at 134 deg C. Entire breathing system should not require any tool to remove. It should have Pressure Graduated APL Valve as well as Inspiratory and Expiratory Valve and single-step bag to vent switch to easily move from ventilator to manual bag ventilation.
13.	The machine should have patient airway pressure monitoring giving the Pmax, Pmean and PEEP Values
14.	Machine shall provide circle mode breathing circuit – Reusable closed circuit for Adult.
C	**Vaporizers: It should have provision to connect two selected mount vaporizers and the unit should be provided with one vaporizer equivalent to TEC – 7 type or latest, for Isoflurane. Vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer. Company should have own manufacturing facility of Sevoflurane and Desflurane Vapourisers. Prices are to be quoted separately.**
D	**Integrated Anesthesia Ventilator:**
15.	It should have integrated microprocessor controlled and pneumaticallydriven ventilator with universal bellow to avoid change of below from Neonatal to Adult.
16.	The unit should have fresh gas flow compensation during mechanical ventilation.
17.	Modes of Ventilation – VCV, PCV
18.	SIMV-VC, SIMV-PC, PSV – spontaneous mode with apnea backup for all patient type (Adult to Neonates)
19.	Manual Ventilation, and standby mode.
20.	Tidal Volume: Tidal Volume delivery 20 to 1500ml (Volume Control), 5 to 1500ml (Pressure Control)
21	Dual flow sensor should be provided at inspiratory and expiratory end.
22	Spirometry loops should be available.

23	Pressure regulated valve with 5-meter hose and connector (conversion kit) for oxygen should be provided with each machine
24	Battery, O2 Cell and flow sensor should be covered under the warranty and the prices are to be quoted separately
25	Should have a provision for mounting monitors on top of the machine and with drawers.
26	Should be supplied with medisorb or equivalent for circle absorber (4kg)

2. Fibre Optic Laryngoscope

Video blades for intubation

* Special angulated Adult Blade for difficult intubation with device for introduction of **suction catheter of size 16-18 Fr., angle of view should be 70 degree or more should be provided with stylet from same manufacturer.**

* Blades and connection cable should be fully immersible in disinfecting solution.

* Blades can be sterilized using plasma sterilization system. Thermal disinfection up to 93 degrees and Chemo-thermal disinfection up to 65 degreesshould be permissible.

* Required blades with titanium handles with integrated camera chip and LED light illumination.

* Blades should have anti fogging mechanism.

* Accessories like protection cap for blades, tray for cleaning and sterilization of blades (at least two blades at a time) from same manufacturer should be provided.

Video Processing & Monitor

• Monitor Screen size should be 8 to 9 inch for display. Touch screen to control features with HDMI output for connecting to a big screen which can display picture simultaneously on both screens.

* Monitor should have two ports to connect two video laryngoscope blades at one time and picture can be swapped using touch screen.

* Monitor should be chargeable, to be supplied with charger and should have facility to be used while charging.

* Monitor resolution should be minimum 1926 X 1200 pixels in 16:9 format.

It should have integrated video processing & integrated recording of Video & still images should be possible on data card or USB drive with JPEG and MPEG format which can be easily transferred to the computer/laptop. Documented videos & still images should be easily recalled on the monitor.

* Monitor should have a facility to connect flexible video scope (reusable & single use) directly without any special coupler or accessory.

* Monitor should have picture-in-Picture & side-by-side mode to view images from 2 different blades or flexible video scopes.

* Monitor should be splash proof according to IP 54 and should be shockresistant.

* Monitor should have lithium-Ion rechargeable batteries and run for at least 100 minutes when fully charged.

* Soft bag from same manufacturer should be supplied to place the monitor and system can also be operated without taking (onitor out from the bag.

* Product certification EC Class-1

* Same Monitor should be compatible with all the below mentioned scopes of same manufacturing principal company

* Single use video laryngoscope
* Reusable Flexible Intubation video endoscope
* Single use Flexible Intubation video endoscope
* Video Intubation endoscope with flexible
* Tip Video Trolley/ Cart:

Trolley to hang monitor with tray for fiberoptic laryngoscope should be provided from same manufacturer with height 120 cm, rollable with minimum five legs and antistatis castors, crossbar 25 cm x diameter 25 mm for positioning the monitor, with tray, dimensions (w x d x h): 30 x 20 x 10 cm.

- Video processing system including Video Blades should be from same manufacturer for total system compatibility for optimal system performance.
- Demonstration of system is must before finalization of opening finance bid.
- Should have approval from USFDA Approved/European CE 4 digit/ Notified CE/BIS.

3.Peripheral Nerve Stimulator

1. Should have a current range from 1 to 99 mA.
2. Should have a resolution of 1mA
3. Should have a digital display for current.
4. Should have short stimulus pulse duration of 0.1ms.
5. Should have frequency range between 0.1 & 99 Hz.
6. Should be able to deliver single twitch, Train of four, PTC and DBC.
7. Should have integrated electrode cable with lead.
8. Should be battery operated with rechargeable battery.
9. The equipment should conform to any one of the National/ international quality/ safety standards or the manufacturer should have ISO certification.

4.Pre sterile scope sets for Bronchoscope

1. Equipment should be disposable flexible, light weight handy and portable bronchoscope with inbuilt light source for highly infected patients
2. Scope should be available in following various sizes.
a. Outer diameter of 3.8 mm & inner diameter of 1.2 mm
b. Outer diameter of 5 mm & inner diameter of 2.2 mm
c. Outer diameter of 5.8 mm & inner diameter of 2.8 mm
3. Working length 600 mm
4. Should have suction port, oxygen port and drug installation port
5. Tip should be easily manoeuvrable, tip deflection range 180/180 degree
6. Scope should come in pre sterile packing
7. Should provide portable TFT LCD monitor of size at least 8" with touch screen and clamp for fixing with IV stand.
8. Monitor should have minimum 8 GB storage capacity, minimum 2-hour backup, recording facility, USB port and provision for video output
9. Monitor should run on both electricity and battery
10. Should have safety certificate from a competent authority CE issued by a notified body registered in the European commission / FDA (US)/ STQC CB Certificate/ STQC S/Notified CE Certificate or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate/ test report shall be produced along with the technical bid. (For monitor).

5.Multiparameter Monitor with 2 IBP

1. Should have TFT/LCD display with at least 12.1 inches with 6 wave forms and numeric display simultaneously. Should be capable of customized display
2. Should be compact & portable with carrying handle
3. Monitor should have in built Lithium-ion type battery for 3 Hrs. continuous operations in case of mains failure.
4. Should have keys for quick access to main functions.
5. Should be able to monitor ECG, SpO2, NIBP, Respiration Rate, 2 IBP& Temperature for adult, paediatric and neonatal patients with adult, paediatric & Neonatal modes by default.

6. 5 Lead ECG monitoring with full range of lethal and non-lethal arrhythmia recognition capability with detailed list (more than 20 parameters) in the monitor to set priority and ST analysis

7. Respiration & Apnea alarm

8. Manual, Auto and STAT mode for NIBP monitoring and ranges should be 30 to 230 mmHg.

9. Pulse Oximeter (SPO2) with Plethysmogragh &Pulse strength indicator With Variable pitch with change in SpO2. Should have low perfusion compensation and motion tolerance technology. Documentary proof shall be submitted

10. Micro stream / Side-stream 2 IBP

11. Should have separate volume control for beep sound for QRS and alarm sound.

12. The display setting should have at least 3 user defined setups variable as perapplications for flexible use of the monitor in various clinical environments.

13. Monitor should have networking options

14. Should provide following accessories

A. IBP Cables – 2 Nos

B. Reusable adult 5 lead ECG cable set (clip type) – 3 nos.

C. Reusable adult and pediatric SpO2 finger probes – 2 each, Extension cables -2 Nos

D. Disposable SpO2 probes for neonatal use- 2 no's and Y sensors – 2 Nos

E. NIBP reusable cuffs for standard Adult (5 numbers), Obese Adult (2 numbers), Child and infant (2 numbers each)

F. Temperature Probe – 2 Nos (Easophal/Rectal/Surface)

15. Facility for last 24 hours full disclosure with waveforms trend review & facility for patient data entry

16. Equipment performance should not be affected by electromagnetic radiated or conducted through power lines from another device (Cautery protection).

17. Should work on 200-240V AC/50Hz with inbuilt rechargeable battery.

18. Should have Medical grade IP44 or above rated power cord to match D-Type plug. The protective earthling resistance (PER) and leakage current (LC) values should be as per IEC 62353/AAMI/NFPA-99.

19. Should have safety certificate from a competent authority CE issued by a notified body registered in the European commission / FDA (US)/ STQC CB Certificate/ STQC S Certificate/Notified CE or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate/ test report shall be produced along with the technical bid.

20. Monitor stand as per the following specification should be available and the

rate should be quoted separately (Taken for evaluation).

a. Monitor stand - extruded Aluminum, powder coated.
b. Load bearing capacity 20 kgs approximately.
c. Should supply, install with necessary anchor fasteners at the site.

6.Multipara Monitor with IBP & ETCO2

1. Advanced high end patient monitor having integrated non-invasive, invasive measurements & features suitable for Neonate, Pediatrics & Adult patients.
2. Monitor must have bright, highly visible minimum 15'' or more Color TFT display with full touch screen facility.
3. Monitor must have the facility to display 8 or more waveform along with related numerical parameters on single screen.
4. Monitors should have facility to monitor ECG, SpO2 (low perfusion compensation and motion tolerance technology), NIBP, Respiration, dual temp, 2 IBP (facility for PPV) simultaneously and ETCO2 (Main Stream/ Side stream/ Micro stream).
5. Transport Module Monitor must have 4" or more Display
6. Transport module should display 2 or more wave forms.
7. Transport Module should have at least 2hr Li ion battery backup
8. Should have Arrhythmia detection including all life-threatening arrhythmias (20 nos minimum)
9. Should have event recall minimum up to 24 hours trend, graphical and tabular trends, including short trends drug dose calculations, alarm logs, Hemodynamics calculations
10. The monitor should have facility for enlarge numeric display for distance viewing with multiple layouts of screen.
11. Monitors should have ST segment calculations with all latest arrhythmia detection & review facility.
12. Supports ST and QT/ QTc interval monitoring.
13. 12 lead ECG simultaneous display using 10/ 12 lead ECG cable.
14. Monitor should have facility to eliminate false arrhythmia alarms.
15. Should have full disclosure facility as standard. Monitor must have the time linked review function. Monitor must show the waveforms for the time when the arrhythmia occurred in case of arrhythmia recall.
16. Monitor should have detachable unit which can transfer the patient monitoring parameters, information like Patient information, Alarm Setting,

Trend Graph, full disclosure for while in transfer from one monitor to other without losing acquired data.

17. Should have internal rechargeable battery capability for at least two hour or more operation along with battery charge indicator.

18. Monitor should have event review facility including NIBP.

19. Monitor should have audio/ visible alarms in different colours & should be visible from distance.

20. All monitors must be ready for Central monitoring station connection & inter bed facility as standard feature.

21. Must be ready to connect CO/ CCO with different methods.

22. Slave display connection at any point of time.

23. Should have safety certificate from a competent authority CE issued by a notified body registered in the European commission / FDA (US). The certificate attached shall be verifiable.

24. Monitors should be supplied with following free of cost;

a. 5/ 6 Leads ECG cable - 1 no & 10/ 12 Leads ECG cable - 1 no

b. Spo2 probe for Adult, Pediatrics & Neonatal - 2 nos each

c. NIBP cuff for Adult, Pediatrics & adult obese - 2 nos each

d. Temp Probe - 2 nos

e. IBP connection cable – 2 nos

25. Monitor stand as per the following specification should be available and the rate should be quoted separately (Taken for evaluation).

a. Monitor stand - extruded Aluminum, powder coated.

b. Load bearing capacity 20 kgs approximately.

c. Should supply, install with necessary anchor fastners at the site

26.ETCO2 set with airway adaptor for both intubated and non-intubated patientshould be available and the rate should be quoted separately.

SPECIFICATIONS FOR THE DEPARTMENT OF GENERAL SURGERY

1.3D Laparoscope

A. 3D SCOPE

1. The 3D scope should be of 10 mm diameter, with High Resolution, Dual Lens, chip on tip technology

2. Should have Dual Lens technology for Left and Right image signals

3. The 3D scope should have Degree of Vision (DOV) of 30 degree

4. The 3D scope should provide Full HD native resolution 1920 X 1080 p

5. The 3D scope should be focus free with minimum Depth of Field 20 mm, and a wide field of view of at least 60 degree

6. The 3D scope should have an effective working length of 290 mm or more

7. The 3D telescope design should seamlessly eliminate the image rotation distortion, associated with 3D vision

8. The 3D scope should have integrated cable and camera connectors

9. Should have provision for switch over between 3D and 2D observation modes, from the 3D telescope

10. Should be possible to autoclave the 3D scope or use sterile camera cover. The rate for the sterile camera cover should be offered separately which will be taken for evaluation. For evaluation rate of 10 Nos cover shall be taken.

B. Central Processing Unit

1. Should have a single module with integrated processor and mixer

2. Should have an advanced module with integrated processor & mixer to process both Left and Right image signals and to transmit the 3D image

3. Should adopt polarizing system for image reproduction, for using economicaleye-ware for flicker-free and bright image

4. Should be capable of processing the video imaging using optically filtered light of green and blue wavelengths, to better delineate the capillary structures, in both 3D and 2D modes

5. Should have the facility to connect routine camera heads foruse with non video telescopes

6.Should have the facility to connect video scopes like Flexible Cystoscope and Ureteroscope

7. Should be capable of providing the following 3D transmission outputs - 3G-SDI Line by line andside by side HD-SDI

C.Light Source

1.Should have an LED light source equivalent to 300 W Xenon light

2.Should have facility for automatic brightness control for distribution of light, evenlyover the image field

3. There should be a standby 300W Xenon light source

D.Monitor 3D with 4K

1. The monitor should be 3D with 4K

2. The monitor should upscalethe High Definition (HD) image from the Central Processing Unit (CPU) to 4K, both in 3D and 2D modes

3. The 3D with 4K monitor should be in the following screen sizes

a. 30 to 35 inch (Resolution 4096 X 2160 p) – Optional only. The rate will not be taken for L1 calculation

b. 50 to 55 inch (Resolution 3840 X 2160 p) with suitable trolley These two monitors should be quoted separately in the BOQ.

4. The 3D with 4K monitor should have Opti Contrast panel, for more contrast and to avoid reflection from external light.

5. The 3D with 4K monitor should have 3G/HD-SDI,DVI-D inputs for 3D and 2D image display

6. The 3D with 4K monitor should have 3D/HD-SDI, DVI-D Output for 3D and 2D image transmission

7. The 3D with 4K monitor should have brightness adjustment feature when switching between 2D and 3D images

E.Image Recorder

1.Should be supplied with dual channel High Definition video recording device with memory of 4 TB or more

2. Should have the facility for capture, store and transmit 3D and 2D images and videos

3. Should have the facility to overlay the voice of surgeon on the video, for teaching purposes

F. Electronic insufflator of 40 litres or above of high flow per minute

1. Electronic insufflator of 45 litres of high flow per minute

2. Soft approach pressure control for safe recovery of abdominal pressure

3. Should have audio visual alarms

4. Should be supplied with inlet and outlet gas tubing, Universal Wrench and tools

5. Should work with input 200 to 240V AC, 50 Hz supply

G.Accessories

1. Should be supplied with 10 numbers of light weight polarized glasses

2. Should be supplied with a Full HD 2D camera head;

3 CMOS/3CCD technology; Resolution 1920 X 1080 p; Optical zoom from 0.8X to 1.8X, which can be seamlessly varied; IR compatible camera for use with Indocyanine Green; Light weight, less than 250 gms

3. Should be supplied with a suitable light cord cable

4. Necessary cables to connect all the equipment

5. Should be supplied with a suitable trolley, which should haveat least 6 power sockets and the provision to hold carbon dioxide gas cylinder

6. Cidex tray – 4 numbers

7. Formalin chamber – 2 numbers

H. Certifications

1. Should have safety certificate from a competent authority CE issued by a notified body registered in European Commission / FDA (US) / STQC CB certificate / STQC S/Notified CE certificate or valid detailed electrical and functional safety test report from ERTL for this camera system.

2. All items should be quoted and supplied shall be from the same manufacturer except Cidex tray and Formalin chamber.

2.HD 3 chip laparoscopy set

I. HD 3 chip High definition Camera System with recording facility (External or Internal)

1. The system should be truly Digital HDTV endoscopic video camera.

2. The system should have the minimum Resolution of 1920 x 1080 pixels, progressive scan and the consistent use of 16:9 format for Input & Output to guarantee genuine HD TV.

II. HD 3 chip High definition Camera Head

1. 3 chip HD Camera Head resolution 1920 x 1080 pixel, 3x1/3" CCD/CMOS Progressive Scan 60HZ at least with 2 freely programmable Camera Head buttons and optical zoom lens of 2x dynamic optical / digital zoom range.

2. The system should have special features:

a) Should optimize image quality & Digital Source Sampling thus maximizing hi-fidelity image transmission.

b) The system should have Optical Zoom/ digital Zoom to enhance the quality of Image size & cross specialty standardization of the camera system, regardless of the telescope used

c) The system should automatically optimize all settings. The system should be ready to-use as soon as it is connected to the camera control unit.

III. HD 3 chip High definition Camera Control Unit

1. AGC: Microprocessor controlled

2. The system should have the following features:

a) Camera system should have at least two camera buttons to control the various functions of the camera from the camera head.

b) Should have the facility to add fiberoptic filter

3. All the camera head button functions can be also controlled by the keyboard/touch screen from a non sterile field.

4. Video Outputs – DVI – 2 Outputs

5. DVI Connecting Cable

6. Power supply — 220-240 VAC 50/60 HZ

7. Should have safety certificate from a competent authority CE issued by a notified body registered in European Commission / FDA (US).

IV. Medical Monitor

1. Medical grade 26" or more FULL HD TFT/LCD/LED flat panel Monitor with color systems PAL, NTSC.

2. Maximum screen resolution 1920 x 1080 pixels, Image format 16:9

3. Video inputs: DVI- 2 Outputs

4. Video outputs: DVI

5. Power supply 220 - 240 VAC, 50/60 Hz

6. Monitor Stand, with integrated cable channel, for use with Monitor.

V. Recording Device

1. HD Image capture facility with External/ Inbuilt recording; Should supply the necessary storage hardware-External or Internal hard disk / USB drive of at least 1TB (either internal or external or both combined) capacity- along with. In case of external recording device it should be from the same manufacturer.

2. Should be able to take video and still images during surgeries.

3. The system should support to take still images from recorded video footages

VI. Cold Light Source:

1. LED light source equivalent to 300 W Xenon

2. Standby mode

3. Universal jaw assembly to adapt any make of fibre optic cable

4. Fibre optic light cable with straight connector size 4.8mm or above, length 300 cm or above. heat resistant

5. Heat Resistant

6. Adjustable brightness control

7. Should have Light intensity indicator.

8. In case of integrated light source, rate for separate light source as per specification to be offered.

VII. Electronic Insufflator (If available shall be quoted separately. Rate will not be taken for evaluation

1. Electronic insufflator of 20 litres of high flow/minute with warmer.

2. Soft approach pressure control for safe recovery of abdominal pressure.

3. Audio visual alarms

4. Should be supplied with in-let and out-let gas tubings, Universal Wrench and tools required, Sterile Filter package of 10 pieces.

5. Should have display for pressure, flow rate and total flow

6. Should have Co2 cylinder level indicator.

7. Should work with input 200 to 240Vac 50 Hz supply. 8. Should have safety certificate from a competent authority CE / FDA (US) / STQC CB certificate / STQC S certificate or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate / test report shall be produced along with the technical bid.

VIII. Telescope 0° – High definition

Straight forward Telescope 0o, Enlarged view, Diameter 10mm, length at least 31 cm, Autoclavable, Fiber optic light transmission incorporated.

IX. Forward – Oblique Telescope 30o High definition

Enlarged view, diameter 10mm, length at least 31 cm, Autoclavable, fiber optic light transmission incorporated.

X. Forward – Oblique Telescope 45 / 50 degree High definition

Enlarged view, diameter 10mm, length at least 31 cm, Autoclavable, fiber optic light transmission incorporated.

XI. Trolley & CO2 cylinder

1. Should be supplied with suitable trolley.

2. Trolley should have provision to hold gas cylinders.

3. Trolley should have at least 6 power sockets to connect the camera, insufflator, light source, monitor etc.

4. CO2 cylinder B type –filled

XII. The Camera, Monitor, Light Source and electronic Insufflator should be from the same manufacturer.

XIII. If ICG fluorescent image facility is available with the tenderer, then the rate for the Camera Unit and Light source for the ICG shall be offered separately – which will not be taken for evaluation.

XIV. Hi Flow Insufflator (Rate shall be quoted separately which will be taken for evaluation)

1. Electronic insufflator of 40 litres of high flow/minute with warmer adjustable from 0 to 40 litres

2. Soft approach pressure control for safe recovery of abdominal pressure.

3. Audio visual alarms

4. Should be supplied with in-let and out-let gas tubings, Universal Wrench and tools required, Sterile Filter package of 10 pieces.

5. Should have display for pressure, flow rate and total flow

6. Should have Co2 cylinder level indicator.

7. Should work with input 200 to 240Vac 50 Hz supply.

8. Should have safety certificate from a competent authority CE / FDA (US) / STQC CB certificate / STQC S certificate/Notified CE or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate / test report shall be produced along with the technical bid.

3.Laparoscope Instrument set

1. Trocar, size 10 / 11mm, consisting of Trocar only, with pyramidal tip cannula without valve, with insufflations stop-cock, length 8 cm or more , multifunctional valve, reducer 10/5mm ,should be made of 3/4 pcs- 2 Nos.

2. Trocar, size 12.5 / 13mm, consisting of: Trocar only, with pyramidal tip. Cannula without valve, connection for 13mm Reducer 13/10mm ,should be made of 3/4 pcs- 2 Nos.

3. Trocar, Size 5 to 6mm consisting of : Trocar only, with pyramidal tip, cannula without valve, with insufflations stop cock, length 8 cm or more , Multifunctional Valve,should be made of 3/4 pcs - 6 Nos.

4. Dissecting and Grasping Forceps, rotating, with connector pin for unipolar coagulation, size 5mm, length at least 33cm double action jaws, consisting of: Plastic Handle, without ratchet Outer Tube, insulated Forceps Insert, should be made of 3 pcs.

5. Grasping Forceps, rotating, with connector pin for unipolar coagulation, size 5mm, length at least 36cm, atraumatic fenestrated single action jaws, consisting of: Plastic Handle, with ratchet Outer Tube, insulated Forceps Insert, should be made of 3 pcs.

6. Scissors, rotating, dismantling, insulated, with connector pin for unipolar coagulation, with LUER-Lock connector for cleaning, double action jaws, curved, length of blades 15mm, size 5mm, length atleast 33 cm consisting of Plastic Handle, insulated, without ratchet Metal Outer sheath, insulated Scissors Insert for use with trocars size 6mm, should be made of 3 pcs.

7. Claw Forceps, 2x3 teeth, rotating, with connector pin for unipolar coagulation, size 5mm, length atleast 33cm, single action jaws, consisting of Plastic Handle with style ratchet Outer Tube, insulated Forceps Insert, should be made of 3 pcs.

8. Rotating bipolar grasping forceps, size 5mm. can be dismantled to three pieces for better cleaning and disinfection, autoclavable. Length should be minimum 33 cm with connector pin for bipolar coagulation and cord should be supplied, should be made of 3 pcs.

9. Suction and Irrigation Tube, anti-reflex surface with trumpet type lock, for single hand control size 5mm, length 36cm

10. Needle Holder, ergonomic handle with ratchet, left curved jaws, with tungsten carbide inserts, Ø 5mm, length 33cm for use with suture material 0/0-7/0.

11. Clip Applicator, for use with Titanium-Clips (medium large), rotating, size 10mm, length 36cm, consisting of: Metal Handle

12. Coagulating electrode L-shaped and spatula size 5mm, working length at least 33 cm, with connector pin for coagulation and cord.

13. Vereespneumoperitoneum needle, with spring action blunt stylet, length should be atleast 10 cm and 15 cm, should have a luer -lock connector for insufflation.

14. Bowel grasper, fenestrated at least 2cm long beak, size 5mm can be dismantled for better cleaning and disinfection. Should be fully rotational 360 degree and autoclavable. Should have insulated outer tube, plastic handle, luer-lock connector and connector pin for unipolar coagulation,should be made of 3 pcs

15. Knot pusher, 5mm diameter, conical form type.

16. Palpation probe, 5mm diameter, length atleast 33 cm.

17. Should supply the following accessories if orders issued 1. Cidex / equivalent tray – 1nos. 2. Formalin chamber – 1nos

18. Should have safety certificate from a competent authority CE issued by a notified body registered in European Commission / FDA (US) / STQC CB certificate / STQC S/Notified CE certificate or valid detailed electrical and functional safety test report from ERTL for camera system.

19. Handle should be made of PEEK material

20. All instruments should be from same manufacturer

21. All instruments have separate prices to be quoted.

4. General Surgery Instrument Set

Sr. No.	Particular	Quantity
Laparotomy Set		
1	Kidney Tray Large	6
2	Ss Bowl	12
3	Towel Clip	1
4	Bp Handle No. 7	2
5	Suction Tip 2mm	3
6	Suction Tip 5mm	3
7	Yankaur Suction Tip 10 Mm-31 Cm	3
8	Ss Scale	3
9	Dissecting Tooth Forcep 16 Cm	6
10	Adson Tooth Forcep 12 Cm	6
11	Adson Plain Forcep 15 Cm	6

12	Dissecting Plain Forcep 18 Cm	6
13	Dissecting Plain Forcep Fine Tip 15 Cm	6
14	Dissecting Plain Forcep 23 Cm	6
15	Dissecting Plain Forcep 30 Cm	4
16	Debakey Forcep 20 Cm	6
17	Mosquito Artery Forcep Cvd 12 Cm	12
18	Mosquito Artery Forcep Cvd 14 Cm	18
19	Mosquito Artery Forcep St. 12 Cm	11
20	Mosquito Artery Forcep St. 14 Cm	18
21	Artery Forcep Cvd 16 Cm	18
22	Artery Forcep Fine Cvd 18 Cm	18
23	Artery Forcep Fine Cvd 19 Cm	24
24	Artery Forcep Heavy Cvd 20 Cm	10
25	Allis Forcep 15 Cm	12
26	Allis Forcep 20 Cm	2
27	Babcock Forcep 18 Cm	4
28	Babcock Forcep 20 Cm	4
29	Kochers Clamp Cvd 20 Cm	6
30	Kochers Clamp St. 20 Cm	6
31	Metz Scissor 20 Cm (1 Golden Handle)	2
32	Metz Scissor 15 Cm	2
33	Metz Scissor Heavy Tip 19 Cm	2
34	Mayo Scissor St. 17 Cm	3
35	Mayo Scissor St. 19 Cm	3
36	Needle Holder 18 Cm Fine Tip	6
37	Needle Holder 18 Cm Heavy	6
38	Needle Holder 20 Cm	3
39	Needle Holder 27 Cm	3
40	Rider Needle Holder 20 Cm	3
41	Intestinal Clamp Cvd (Atraumatic)	6
42	Intestinal Clamp St. (Atraumatic)	6
Retractor tray		
1	Dever Retractor Smal	8
2	Dever Retractor Medium	11
3	Dever Retractor Large	12
4	Doens Retractor	2
5	Skin Hook	8
6	Lengan Bag Retractor M	4
7	Lengan Bag Retractor Small	4
8	C Zerney Retractor	6
9	Vein Retractor	9
10	Mastoid Retractor	6

11	Peristom Elevator	2
12	Bowl Large	5
13	Maliable Copper Retractor S/M/L	6 EACH
Fine Vascular Tray		
1	S.S Tray With Lid	1
2	Pot"S Scissors (Forward) 19 Cm Tc	1
3	Rider Needle Holdre 18 Cm	1
4	Fine Forceps Adsons 12 Cm	1
5	Micro Scissors St 15 Cm	1
6	Micro Scissors Cvd 15 Cm	1
7	Castro Needle Holder 15 Cm St	1
8	Castro Needle Holder 15 Cm Cvd	1
9	B.P Handle 7 No	1
Vascular Tray		
1	Aortic Clamp 27 Cm	2
2	Cross Clamp 24 Cm	1
3	Aortic Clamp 20 Cm	2
4	Aortic Clamp 15 Cm	2
5	Aortic Clamp 24 Cm	1
6	Buldog Clamp Curv 7 Cm	2
7	Buldog Clamp Curv 10 Cm	2
8	Buldog Clamp St. 8 Cm	2
9	Buldog Clamp St. 10 Cm	2
10	Buldog Clamp Angled 7 Cm	2
11	Debakey Forcep 24 Cm	2
12	Vein Retractor 23 Cm	2
13	Needle Holder 27 Cm	1
14	Potss Scissor	1
15	Rider Needle Holder 20 Cm	1

1. Instruments should be made of stainless steel and should be of high quality, non-corrosive, rust proof and in bright finish.
2. Material grade AISI 410 and 420 certified.
3. Instruments should carry ledger marking in indicating the Manufacturer's name and batch no. or lot no.
4. Company should be USFDA/European CE/Notified CE approved.

Procurement and supply of Dialysis Machines to Government Area Hospital, Kadiri, Sri Satya Sai district Puttaparthy in Andhra Pradesh

S.No	Item Name	Qty	Total Estimated Cost
1	Dialysis Machine	5	37,00,000

Technical Specifications for Dialysis Machine

1) The Machine should be suitable for both Paediatric and Adult type of patients.

2) It should have both Acetate and Bicarbonate Dialysis facility.

3) The machine should have one bacterial filter (pyrogen filter) before water going to dialyzer.

4) The machine should have sequential/ isolation ultra filtration facility

5) The machine should have Arterial, Venous and transmembrane pressure monitoring facility

6) Treatment parameters should be displayed by trend curve and digital both in a user-friendly manner.

7) The machine's Arterial Blood pump flow rate shall be of any range between value of 10 to 600 (ml/min)

8) Blood tubing pump segment should be operator changeable for use of different type of blood tubing sets and segment range from 4mm to 10mm approx

9) The variable dialysate flow shall be of any range in between value of 100 to 800

(ml/min).

10) The dialysate temperature shall be of any range in between value of 32 to 40 (degree C).

11) The machine should have volumetric ultrafiltration system.

12) The machine should have In-line Bicarbonate mixing and solution preparation facility with sterile dry powder cartridge during dialysis.

13) The machine should have Air bubble detector facility with level adjustment facility for venous chamber

14) The machine should have mechanism/ technology to check the presence of blood /saline in the extracorporeal blood circuit system

15) The machine should have sodium, Bicarbonate and UF profiling/ adjustment facility

16) The machine should have blood leak sensor and should have drain facility.

17) The machine should have Heparin Infusion pump with rate 0 to 10 ml/hour with value adjustment facility and bolus infusion from 0 to 5 ml.

18) The machine should be able to accept different concentrate formulation, different dialyzers and blood tubing set.

19) The machine Ultra Filtration (UF) rate should Ideally be less than 4 Lt's/Hr.

20) The machine should have automatic priming/ reinfusion facility

21) The machine should have variable conductivity setting which must include 13 to 15ms/cm.

22) The machine should have hot rinsing and hot chemical disinfection facility (Temperature above 80 des Celsius) with recirculation system

23) The machine should have In-built heat exchanger.

24) The machine should have built-in automatic pulse rate and blood pressure (NIBP) monitoring unit with recording facility.

25) The machine should be up gradable to future software development and can be linked for data management system

26) The machine should have Automatic diagnosis of Malfunctioning with on line ability to show the faults with trouble facility.

27) The machine should have adequate Audio-Visual alarms' available for all important parameters.

28) The manufacturer should be USFDA/CE/BIS etc. & ISO 13485 certified

29) Warranty: 3 Years.

List of balance items – 8 UPHCs and 9 UPHCs

Sl. No	Name of the item	Qty
Group-A		
1	X-Ray view box	8+13
2	Weighing Machines Adults Simple	8
3	Fire Extinguishers – 4 Kgs	16
4	Weighing Scale, Infant (10 Kg)	8
5	Weighing Scale, (baby) hanging type, 5 kg	8
6	Tracking Bag and Tickler Box (Immunization)	8
7	Headset	16
8	Nebulizer	8
9	Dust Bins set contains (Blue, red, yellow and Black)	39
10	Buckets Big 15 Ltr (Plastic)	26
11	Buckets Small 10 Ltr (Plastic)	65
12	3 Bucket Systems	13
13	Red bags cover yellow ban covers and black bags covers	156
Group-B		
14	Suction Apparatus	8
15	Examination Lamps	8
16	Oto scope	16
17	Bag mask device bag neonate-Silicon	8+237
18	Fetal Doppler	8
19	Head Light	8
Group-C		
20	Dental Probe	8
21	Tray instrument /Dressing with cover 310 x 195x63mm SS, Ref IS: 3993	16
22	Vulsellum Uterine Forceps	16
23	Sims retractor/depressor	8
24	Cheatle's Forceps	16
25	Needle Holder	16
26	Artery Forceps, straight, 160mm Stainless steel	16
27	Dressing Forceps (spring type), 160 mm, stainless steel	16
28	Cord cutting Scissors, Blunt, curved on flat, 160 mm ss	16
29	Artery Forceps-Curved	16
30	Tuning Fork	8
31	Toothed Forceps – Dissecting	16
32	Kidney Tray Plastic	48
33	Snellen's chart	8
34	Gauze Cutting Scissors Straight	16
35	Basin with Stand (Single)	16
36	Kelly's haemostat Forceps straight 140 mm ss	26
37	Sims Speculum vaginal double ended ISS Medium	13
38	Episiotomy Scissors	26

39	Basin 825 ml. Ss (Stainless Steel) Ref. IS 3992	52
40	Uterine Sound Graduated	13
41	Dressing Drum with cover 0.945 litres stainless steel	13
42	Surgical Scissors straight 140 mm, ss	52
43	Suture needle Straight – 10	13
44	Suture needle curved	13
45	Sims Speculum vaginal double ended ISS Small-I, Large-I	39
Group-D		
46	Vertical Autoclave (Single Bin)	8
47	Bench top Centrifuge – 8 Tubes	8+9
48	Blood Mixer (Rotator)	8+9
49	Indirection selective electrolyte analyzer	8
50	Sterilizer small	13
Group-E		
51	Steel Almirah / Cupboard/storage chests	16
52	Chairs for patient waiting area	48
53	Cart Rack	32
54	Office Table	40
55	Office chair	16
56	Medical Officers Table	24

1. X-Ray View Box
Ultra-thin X ray film illuminator using light
It should have a thickness of 29 mm
It should be suitable for viewing 14''x17' film
The LED light must have a life span of more than 1,00,000 hours.
It should have easy insertion & removal of the film
It should have homogeneous illumination more than 95% and maximum intensity of over 10,000 LUX.
It should have an on-off switch along with digital feather touch dimmer and a button to set the intensity
It should have fully electronic continuous brightness control, with adjustment range of approximately 90%.
It should have directly connectable to power supply without any external adapter.
It should have flicker free high frequency light for reduction of eye strain.
It should have external fuses for protection against power surge.
10 step Digital dimmer facility with step up/step down intensity of 400 LUX.
Automatic film sensor
Facility to switch on only the section where the film needs to be viewed.
Once intensity set, should not go back to factory setting
PRODUCT & MANUFACTURER QUALITY STANDARDS:
The company should be ISO 13485 certified
Should be CE or USFDA approved

2. Weighing Machines Adults Simple
0 - 130kg, min
Graduation 0.5 kg
One-year warranty
Model approval by Legal Meteorology Department
Machines verified and stamped by legal Meterology Department. With ISO certification.
Portable, min. size: 30 cm x 30xm or 30 cm diameter
In case of distributor, they must have dealership & repairing license issued by Legal Metrology Departmenet, Govt. of Andhra Pradesh

3. Fire Extinguishers – 4 Kgs
Supply, installation, commissioning of Fire Extinguishers for each department in each health facility

Power Based Fire Extinguishers: - Supply and fixing of ABC stored pressure squeeze grip type fire extinguishers, 4 kg capacity, IS:15683 : 2006, filled with ABC Mono Ammonium Phosphate base powder-90 complete with discharge hose and wall mounting bracket, 2mm Mild Steel, EPDM Rubbers, Pressure Guage, which work effectively on all class of fires (A,B,C & Electrical fires)
Pressure measurement range should be 60 to 290 mm Hg systolic and 40 to 200 mm Hg diastolic.
Test certificates will be provided at the time of installtion
Two years warranty against manufacturing defects
Bidder is responsible for supply, installation and commissioning

4. Weighing Scale, Infant (10 Kg)
Sturdy machine with stable bassinet
Bassinet: curved surface to prevent fall of baby
Sensitivity: 1-2 g
Functions: a. Tare b. Hold
Baby basinet: acrylic material
LED display: large enough to be visible from a distance of 4-6 feet
Automatically switches off after 5- 10minutes of non-use
Runs on mains: 220-240V and inbuilt battery minimum backup 30- 60 minutes a. Maximum capacity: 10 kg b. ISO 9001 certified manufacturer (certificate to be submitted) c. Device is safety certified according CE 93/42, FDA 510k or equivalent (certificate to be submitted) d. Supplied with each unit: Fuse: 10 Nos.
Warranty 1 Year

5. Weighing Scale, (baby) hanging type, 5 kg
Quality cotton fabric, strong and non-elastic;
Square shape, 0.80x 0.80 m, prior to washing;
Edges are double seam finished;
Easy to iron;
Corners can be knotted together to hold baby securely when suspended from the scale;
Supply with text and pictorial instructions for usage and maintenance;
Bag for carrying and/or storage;
Approx. weight: 0.110kg
Warranty 1 Year

6. Tracking Bag and Tickler Box (Immunization)
Made up of Rexin with 3 loops for hanging .
It should contain 15 Pockets.
Each row 4 pockets
Last row 3 pockets
12 Pockets for 12 Months with Month name depicted on every pocket.
In last row 1 pocket for Dropout 2. Leftout 3.
Completed as shown in the attached figure.
Pockets size 240 mm width x 250 mm length In between each pocket 20 mm gap.
Top margin 50 mms
Bottom margin 20 mm
Side margin 20 mm
Warranty 1 Year

7. Headset
Wired over ear headset with adjustable directional mic compatible with windows desktop/laptop and phones
Warranty 1 Year

Group -B

8. Nebulizer
Should be lightweight, portable and compact.
Should have a dust filter.
Should have a dust filter.
Should have air pressure ≥ 35 psi.
Should have a check valve to protect the device against contamination due to backward inhalation
Should be compatible for continuous use.
Should works on 200-240Vac/50Hz.
Should be supplied with nebulization accessory kit with mask for adult and paediatric – 2 nos. each
Nebulization mask for adult and pediatric – 2 nos. each
Should be heavy duty type Nebulizer suitable for usage in Govt. Hospitals

Warranty 1 Year

9. Suction Apparatus-Electrical
1) Noiseless Suction Machine less than <55db
2) It should have maximum vacuum -90 kpa with flow rate 60 liters per min.
3) It should be oil free and Maintenance free suction machine.
4) It should have 2 different outlets to connect 2 jars which can be operated one by one by Changeover lever or touch button
5) It should be supply with 2 jars (Reusable) of not more than 2.5 liters.
6) It should have display dial for showing vacuum and Knob to control Vacuum.
7) It should come with on /off foot switch or Main switch for easy operating.
8) It Should be made with high quality material.
9) Should bear ISI / CE /USFDA/BIS mark
10) Should operate from 200 to 240Vac, 50 Hz input supply
11) Warranty for 3 years

10. Examination Lamps
The LED technology should be of highly engineered optical system which delivers the precisely controlled natural white light that for an accurate examination.
Should have mobile Floor Stand with a diameter of light head should be 120 mm
STANDARD DESIGN FEATURES
• High-intensity of 25 ,000 lux
• CRI (Color Rendering Index) of 92
• Goose Neck
• Natural white light
• LED light module with min 40,000-hour life or more
• Universal input voltage
• IEC 60601-1/ 60601-2-41 certified
• Should have BIS/CE certificate
• The material of base with strong ABS fiber material with heavy duty lockable wheels.
• Warranty 3 years.

11. Oto Scope
1. US FDA or CE approved, ISO 13845 compliant
2. Manufacturer should be ISO 9001 certified

3. Should be a convenient pocket type otoscope
4. Should be provided with a halogen light source
5. Should be able to detach the otoscope head
6. Should provide no reflections and obstructions
7. Should provide detachable accessories of various sizes
8. Should have in built rechargeable battery
9. Recharge should be possible with direct mains supply
10. Warranty 1 Year

12. Bag mask device bag neonate – Silicon
Neonatal/Preterm bag:
Material: o Bag and mask - Silicone rubber o Valves and membranes - Silicone rubber o Connectors and housing – Polysulfone o Reservoir - Poly Vinyl Chloride
Ventilator bag volume - 240 ml
Reservoir bag volume - - 600 ml
Deliverable volume 150 ml
Mask number 00- 1 No, 0-1 No to be supplied
Relief valve should be present o The spring should be of stainless steel
Oxygen connector tubing
All enclosed in a bag

13. Fetal Doppler
1. Should be compact and light weight not more than 250 gms
2. Large LCD display for display of Foetal heart rate
3. Back light for better visibility
4. Display signal quality, low battery etc.
5. High sensitivity Doppler probe of frequency 2.5 MHz
6. Ultra sound intensity <8-10mW/cm2.
7. Auto shut off facility to save battery power
8. Built in speaker with output not less than 0.5W
9. Should work on rechargeable batteries with minimum battery time of 300 minutes
10. Battery charger and spare set of batteries AA type to be supplied
11. Volume control facility and audio output for ear phone should be available
12. Heart rate range should be from 50 - 200 bpm with accuracy of +/- 2%
13. Should be water proof body
14. Should have facility for FHR data transfer to PC (Optional)
15. Doppler probe should be light weight with holder facility when not in use
16. Should be supplied with carrying case

17. Should have safety certificate from a competent authority CE issued by a notified body registered in the European commission/FDA (US)/STQC CB certificate/STQC S certificate or valid detailed electrical and functional safety test report from ERTL
18. Copy of the certificate/test report shall be produced along with the technical bid
19. Warranty 1 year

14. Dust Bins set contains (Blue, red, yellow and Black)
Capacity of min.10 liters or more
Should be made of unbreakable plastic material.
Should be supplied with rotatable lid.
Instruction of BMW should be displayed.
ISO 9001 certified.
each bin cost should be quoted in remarks column of financial bid
Warranty 1 year

15. Buckets Big (Plstic)
Capacity of min.15 liters or more and suitable for hot water also.
Should be made of unbreakable plastic material.
ISO 9001 certified.
Warranty 1 year
16. Buckets Small (Plstic)
Capacity of min.10 liters or more and suitable for hot water also.
Should be made of unbreakable plastic material.
ISO 9001 certified.
Warranty 1 year

17. 3 Bucket Systems

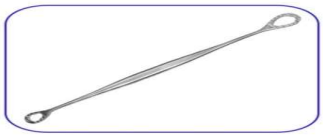
18. Red, Yellow and black bags/covers
Covers thickness not less than 51 microns, size 17 inches to 25 inches.
Colours as per mentioned in order (Red, Yellow & Black)
6 months for manufacturing defects

19. Head light
1.Head light consist of light head, adjustable head band facility for battery box.
2.The mechanical adjustment of the light head should allow the coaxial orientation of the illumination and observation path.
3.Source type: LED
4.Life: 50000 hours
5.CRI>90
6.Intencity: Adjustable intensity of ranging to 50000 luxate a working distance of 40 cm
7. Color Temperature :4500k
8.Light field size; adjustable from 10mm to 80mm at a distance of 40cm
9.Power source; rechargeable battery
10. back-up minimum 2 hours on full charge
11.should be provided the charging accessories
12.should have integrated battery status indicators
13.the unit with the battery pack should have maximum weight of 350gm for continues wearing
14.The head band should be removable and washable SANDARDS and SAFETY
15. Should be USFDA/CE (notified body) approved product
16.manufacture should have ISO 13485 certificate.
17.Electrical safety conforms to the standards for Electrical safety IEC 60601(General requirement)
Warranty 1 year

Group -C

20. Dental Probe
Stainless steel. 0.6 mm, Single end.
Warranty 1 year

21. Tray instrument /Dressing with cover 310 x 195x63mm SS, Ref IS: 3993
310 x 195x63mm SS, Ref IS: 3993
Warranty 1 Year

22. Vulsellum Uterine Forceps
curved 25.5 cm
Warranty 1 Year
23. Sims retractor/depressor

Size: 260MM
Warranty 1 Year
24. Cheatle's Forceps
Straight, Stainless steel, Size: 17cm
Warranty 1 Year
25. Needle Holder
Straight, Stainless steel, Size: 17cm
Warranty 1 Year
26. Artery Forceps, straight, 160mm Stainless steel
Straight, 160mm Stainless steel
Warranty 1 Year
27. Dressing Forceps (spring type), 160 mm, stainless steel
(spring type), 160 mm, stainless steel
Warranty 1 Year
28. Cord cutting Scissors, Blunt, curved on flat, 160 mm ss

Blunt, curved on flat, 160 mm ss
Warranty 1 Year
29. Artery Forceps-Curved
Curved
Warranty 1 Year

30. Tuning fork
1. Tuning fork – 128 hz.
2. Tuning fork – 256 hz.
3. Tuning fork – 512 hz.
4. Should be made up of stainless steel with frequency marked
5. Warranty 1 Year

31. Toothed Forceps – Dissecting
6 inches
Made of stainless steel
Toothed tips

32. Kidney Tray Plastic
Made of plastic
20*15*4 cm approximately
500 ml capacity

33. Snellen's chart
Standard Requirement

34. Gauze Cutting Scissors Straight
Straight
Warranty 1 year

35. Basin with Stand
1. Complete SS, four leg frame
2. Stainless steel tube frame 25.44 mm x1.2 mm
3. Basin support 12.7mm x 1.02 mm
4. Suitable for 350mm diameter basin bowl
5. Approximate dimension H 820 X W 440 mm
6. Should have tie plate
The manufacturer should compliant with ISO 9001 & OHSAS 18001
Warranty 1 Year

36. Kelly’s haemostat Forceps straight 140 mm ss

straight 140 mm ss
Warranty 1 Year
37. Sims Speculum vaginal double ended ISS Medium
vaginaldouble ended ISS Medium
Warranty 1 Year
38. Episiotomy Scissors
Size: 14.5cm
Material : Brushed Steel
Warranty 1 Year

39. Basin 825 ml. Ss (Stainless Steel) Ref. IS 3992
Basin 825 ml. Ss (Stainless Steel) Ref. IS 3992
Warranty 1 Year
40. Uterine Sound Graduated
Should have the Length: 34cm (13")
Silver plated
Reusable
Warranty 1 Year
41. Dressing Drum with cover 0.945 litres stainless steel
0.945 litres stainless steel
Warranty 1 Year

42. Surgical Scissors straight 140 mm, ss
140 mm, ss
Warranty 1 Year
43. Suture needle Straight – 10
straight -10
Warranty 1 Year
44. Suture needle curved
Curved
Warranty 1 Year
45. Sims Speculum vaginal double ended ISS Small – 1, Large - 1
Vaginal double ended ISS Medium
Warranty 1 year

Group -D

46. Vertical Autoclave (Single Bin)
1. Quoted model should be ISI marked / CE certified.
2. Single bin vertical autoclave, suitable for sterilization under working saturated steam pressure of 15-20 psi.
3. Design: Single walled unit, outer shell made up of thick SS and inner chamber made up of SS 304.
4. Lid: Made up of SS plate and tightened by wing nuts.
5. Gaskets: Should be joint less, moulded and made up of neoprene rubber.
6. Capacity: Inner Chamber size 300 mm X 300 mm or suitable for Single bin
7. Sterilizer should be tested hydraulically up to 40-50 psi
8. Should be equipped with pressure gauge, steam release valve & necessary safety valves with all functional accessories.
9. Accessories: One bin made up of SS 304 with 1 extra gaskets.
10. Power Supply: 220/230 volts AC-50 Hz or Suitable power supply
11. Warranty 1 year

47. Bench top Centrifuge - 8 Tubes
1. Stainless steel centrifuge chamber, easy to clean
2. Brushless induction motor with variable frequency drive
3. Microprocessor controller with digital display
4. Stable speed output even under unstable voltage conditions
5. Smooth and soft start
6. 7 segment LED display of speed
7. Alphanumeric LCD display of speed and RCF
8. Selection of 3 acceleration and deceleration profiles
9. Digital countdown timer and continuous run
10. Step less speed regulator
11. Safety Lid interlock to prevent cover opening during centrifugation
12. Imbalance detection and centrifugation stop with display of error
13. Dynamic brake for quick deceleration
14. Imbalance detector with cut-off
15. Max Speed : 5000 rpm
16. Max RCF : 2350 g
17. Max Capacity : 200 ml
18. Dimensions (W x D x H) in mm : 330x370x295

19. Power Supply : 220-240 volts, 50 Hz
20. Holder Capacity : 12 x 15 ml
21. 3Years warranty
48. Blood Mixer (Rotator)
Roller Size 4 Nos.X 230 mm Lg.
RPM 30 RPM-36 RPM
Mixing time 15 to 20 minutes
Capacity – Vacationers 6 Nos. (of – 4m) or bulb of 5 ml X 15 Nos.
Should be BIS/CE/USFDA approved
Power supply : Mains input 230 v, 50 Hz/110v,60 Hz AC
3 Years warranty

49. Indirect ion selective electrolyte analyzer
1. Should be able to measure sodium and potassium.
2. Should have a measuring method of ion selective electrode (ISE).
3. Should be able to measure sodium and potassium, and serum and body fluids.
4. Should have a throughput of minimum 50 samples per hour.
5. Should have separate electrode for sodium and potassium
6. Resolution should be at least 0.1, mmol/litre for each parameter
7. Should have automatic calibration. 1. and 2 point calibration, 2 point time-bound calibration
8. Should have QC memory storage of at least 2 levels
9. Standby mode user controlled, and automatic
10. Should have a measuring range for sodium 40 to 200 mmol/l, potassium 1.5 to 10 mmol/l.
11. It should have require 100 Micro liter are lesser for whole blood serum.
12. It should you have only one reagent module for all standards and wash Solutions and waste also should be collected in the same module.
13. It should have only one cleaning reagents for electrodes and daily maintenance.
14. Should you have printing facility
15. Should Supply reagent pack for 1000 tests, One internal filing solution of 125 ml, two cleaning solution of 15ml and one quality control of 10 ml.
16. Should you have an alphanumeric display.
17. Should have a memory of at least 20 samples
18. Should work on 200 - 240, Vac 50 Hz power supply.
19. should be supplied with offline, pure sine wave UPS of sufficient capacity for a minimum backup of 30 minutes

20. should be provided with the calibration certificate issued by the manufacturer at the time of installation and calibration certificate, should be issued for the Machine by Supplied during preventive maintenance, widget in the warranty/AMC period	
21. Should have safety certificate from a competent authority CE/FDA (us)/ STQC CB certificate/STQC S certificate or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate/test report shall be produced along with the technical bid.	
22. All electrodes tubing, set and membranes assembly will be covered in warranty and CNC ANC the rate of each type of Electro. She'll be coated separately and this rate will be fixed for three years if required to be produced procured. In case of Idling machines	
Warranty	3 years warranty from date of installation

50. Sterilizer small
Power : 2 kw
Voltage : 220 v
Material : stainless steel, single phase
The stainless steel sterilization box manufactured by using high quality stainless steel used for sterilization/disinfection of surgical instruments and material. Sterilizer fitted with backalite quality plastic handle and four legs
Warranty 1 Year

Group -E

51. Almirahs
Steel Almirah as per following technical specification: Overall size: 915 (W) x 485 (D) x 1980 (H) mm including leg height of ~120 mm, full length of PVC shoes with screw fitting.
Materials: The CRCA steel sheet used for the body should be 0.9 mm thick as per IS-513 19
Construction: It should have multi bend construction with interlocking design and full length over lapping doors and sides. It should have three way bolting mechanism. The two doors should have hinge mounted on frame
Doors: The doors have one handle and lever locking mechanism with 6-Six lever Mazak Zinc Plated lock. CRCA DOOR sheet thickness 1mm and self-thickness 1.2mm
Powder coating: All steel components should undergo eight tank anti rust treatment and oven Baked epoxy polyester powder coating with 50-60-micron dry film thickness. It should sustain Salt Spray test to withstand more than 1000 hours as per

IS-101, Pencil scratch hardness more than 2H, Adhesion as per DIN 53152 Standards.
Configuration: It should have 4 adjustable shelves made of 0.9 mm thick CRCA steel sheet with stiffener. Steel sheet shall be oven baked epoxy polyester powder coated with 40-50 dry film thickness.
Color: Silver Grey powder coated or Olive green or prince grey.
The manufacturer should compliant with ISO 9001, 14001 & OHSAS 18001

Warranty 1 Year

52. Chairs for patient waiting area
It should have three seats with 2 arms at end.
The cross beam should be made up of black powder coated rectangular M. S. ERW tube having good strength.
Leg & Armrest should be chrome plated & made up of cold rolled steel.
Seat Back Shell should be powder-coated perforated shell made from cold rolled M. S. sheet. The Side Bar should be made up of chrome plated solid steel. The shell should be assembled on the Cross Beam with help of Bolts. Sufficient no. of bolts should be used to fasten shell on cross beam.
The width (W), height (H), seat height (SH) & depth (D) should be within 176 to 184 cm, 76 to 80 cm, 39 to 42 cm & 61 to 64 cm respectively as shown in the diagram:

The manufacturer should compliant with ISO 9001, 14001 & OHSAS 18001
Warranty 1 Year

53. Cart Rack
Storage Racks are easily customized in accordance to the space and other such necessities of the clients
Quick in installation and made up with CR and HR steel.
Robust, Durable and rust free
14 Gauge Storage Rack L 36 x B 18 x H 59 inch
No. of Shelves-05
Manufacture should have ISO 9001 certificate
Warranty 1 year

54. Office Table
Table - size : 1199 W x 590 D x 735 H
The top panels shall be made from 18 +/- 0.5 mm thick Pre - laminated boards as per with 2 mm thick PVC edge banding on all sides.
Understructure shall be made from 0.9 mm +/- 0.09 mm thick powder coated 50 microns (+/-10) CRCA MS.
Tubular Frame shall be dia. 25.4 +/- 0.3 mm x 1.6 +/- 0.096 mm thick MS ERW tube
Understructure shall be made from 2.5 to 3 mm +/- 0.09 mm thick powder coated 50 microns (+/-10) CRCA MS.
The Storage shall be having shell 0.5 +/- 0.07 mm thick CRCA MS plus drawer tray 0.5 +/- 0.07 mm thick CRCA MS plus drawer front 0.8 +/- 0.1 mm thick CRCA MS.
There should be 10 lever cam lock plus handles built in plastic.
Should be GREENGUARD / SGS & BIFMA/ANSI certified.
The manufacturer should compliant with ISO 9001, 14001 & OHSAS 18001
Draw should be on the right side of the table and keyboard draw not required
Warranty 1 Year

55. Office Chair
Chrome plated M5 base, twin wheel nylon castors, pneumatic high adjustment swivel tilting mechanism , PU moulded soft arm rest, HDPU moulded roam cushioned seat and back
Warranty 1 year

56. Medical Officers Table
Table Top made of 36mm (18 mm + 18 mm) with 1 mm Pvc edge banding Pre-laminated particle board (Action Tesa Board / Century Board)
Size: (5 ft. Length x 3 ft. Width x 2.5 ft height)

Three drawers with Telescopic channels with Lock
Adjusted 1 drawer with locker in the bottom
Foot rest should be available
Computer wires whole should be available
Warranty 3 years

Balance items – Medical Hospitals		
1. **Group – I items**		
(a)	Bulls lamp	16
(b)	Woods lamp	11
(c)	Head light with LED	22
(d)	Electric Plaster cutter	10
(e)	Measuring tape	124
(f)	Tuning fork (1024 Hz)	20
(g)	Tuning fork (256 Hz)	20
(h)	Tuning fork (512 Hz)	20
(i)	Rubber Hammer 9Knee hammer)	110
(j)	Shakir's tape	40
(k)	Spine boards with slings and scotch	20
(l)	Teaching set- 1. Doll and Dummy 2. Female Pelvis- Each set	10
2. Group- II		
(a)	Alcohol Breath Analyzer	10
(b)	Bilirubinometer Transcutaneous	8
(c)	Goniometer	38
(e)	Hysteromat	19
(f)	Infantometer	20
(g)	Fetal doppler	20
(h)	Proctoscope	40

(i)	Peak flow meter	40
3. Group- III		
(a)	Near vision chart with different language	24
(b)	Streak Retinoscope	28
(c)	Gonioscope	10
(d)	Diplopia goggles	20
(e)	Maddox wing	10
(f)	Placido disc	10
(g)	Prism Bar	10
(h)	Trail set with trail frame both for adult and children	19
4. Group- IV		
(a)	Ambu bag with face mask - Adult	305
(b)	Ambu bag with face mask - Neonate	75
(c)	Ambu bag with face mask - Paediatric	100
(d)	Laryngoscope for Anterior	20
(e)	Oxygen Head-Box – Each size	60
5. Group- V		
(a)	Infantometer	34
(b)	Weighing Machine Digital – Child	20
(c)	Weighing Machine Digital - Infant	20
(d)	Weighing Machine Digital Neonate	20
	Individual items	
6	Otoendoscope	10
7	Cardiac pace maker	6

8	ENT Operating microscope for major Operation Theatre (with camera attachment & monitor for teaching and recording)	10
9	Psychological tests equipment 1. Projective tests 2. Intelligence tests 3. Personality tests 4. Neuro psychological tests – Each	10
10	PC based Spirometer	10
11	Chromatography apparatus	10
12	Electrophoresis	10
13	Puretone audiometer	10
14	Vacuum Extractor and suction Machine	15
15	Baby incubator	12
16	HHHFNC (heated humidified high-flow nasal cannula) with circuits and interfaces for all age groups (neonates, infants, children, adolescents and adults)	10
17	ETO steriliser	10
18	Operation Theatre Ceiling light double Dome	38
19	Diathermy machine under water cutting	10
20	Ophthalmology Operating microscope with Monitor with camera	15

Technical Specifications:

1. Group - I		
(a)	Bulls lamp	Light Source Type- LED Depth Of Illumination - **75 / 100 W** Light Colour - White

		Voltage - 220V Technical Data: Arm: Adjustable Spring-Loaded Arm App. 75 Cm Long Incandescent Bulb Dome: Metallic Brass Head With Glass Base: Standard 5 Legged Fiber Base With Wheels
(b)	Woods lamp	1.hand-held unit 2.2 UVA lamps,3-6 Watts each emitting UV light at wavelength 340-400nm with peak at 365nm along with 2 lamps emitting white light 3.Optically ground and polished glass 4-6 diopter magnifier lens with focal length of 18-22cm 4.lens cover for patient protection from direct exposure to bulbs 5.Average lamp life of 5000-7000hours 6.electrical :220/240 v
(c)	Head light with LED	1.Head light consist of light head, adjustable head band facility for battery box. 2.The mechanical adjustment of the light head should allow the coaxial orientation of the illumination and observation path. 3.Source type: LED 4.Life: 50000 hours 5.CRI>90 6.Intencity: Adjustable intensity of ranging to 50000 luxate a working distance of 40 cm 7. Color Temperature :4500k 8.Light field size; adjustable from 10mm to 80mm at a distance of 40cm 9.Power source; rechargeable battery 10. back-up minimum 2 hours on full charge 11.should be provided the charging accessories 12.should have integrated battery status indicators 13.the unit with the battery pack should have maximum weight of 350gm for continues wearing 14.The head band should be removable and washable SANDARDS and SAFETY 15. Should be USFDA/CE (notified body) approved product 16.manufacture should have ISO 13485 certificate. 17.Electrical safety conforms to the standards for Electrical safety IEC 60601(General requirement) Warranty 3 year

d	Electric Plaster cutter	PLASTER CUTTER 1. Should have a fiber body. 2. Should be able to cut fiber gauzes. 3. Blades should be corrosion resistant and highly durable. 4. Blades should have hexagonal mounting hole. 5. Should be supplied with 84mm, 74mm, and 64mm diameter blades. 6. Should be supplied with required tools for replacing the blades, brush and duster. 7. Should be supplied with carrying case to accommodate the plaster cutter and other accessories. 8. Should have a protective guard and gloves. 9. Should be oscillating type 10. Should work with input 200 to 240Vac 50 Hz supply fitted with Indian plug 11. Additional Accessories 12. This is capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90% 13. Blades (84mm/64mm or better) - 6Nos 14. Certificate of calibration and inspection. List of Equipments available for providing calibration and routine preventive maintenance Support. 15. Should be FDA, CE,UL or BIS approved product. 16. Manufacturer should have ISO certification for quality standards. 17. Comprehensive training for lab staff and support services till familiarity with lthe system on site. 18. Comprehensive warranty for 2 years and 5 years AMC after warranty. 19. Certified to be meeting Electrical safety standards for medical equipments as IEC-60601-1 General Requirements
E	Measuring Tape	A flexible and portable tape measure 5 X 1. 5 meters Sewing Measuring Ruler Tape (60 inches) Made of high-quality durable material Warranty 1 year
F	Tuning fork (1024 Hz)	Tuning fork (1024 Hz)
G	Tuning fork (256 Hz)	Tuning fork (256 Hz)
H	Tuning fork (512 Hz)	Tuning fork (512 Hz)

I	Rubber hammer (Knee Hammer)	**Shape of Hammer Material:** Triangular, two headed mallet, throwing axe shape hammer round Head **Design of Reflex hammer:** Taylor, queen square, Babinski, tromner, Buck, Berliner, stookey **Detachable handle:** Yes **Hammer material:** Silicone Rubber, Plastic, Metal, Chrome plated zinc alloy-large mallet and small mallets-soft silicone (Troemner) **Handle Material:** Stainless steel, Mild steel, Plastic **Handle Material edge:** Tapered, pointed, Brush Tip, Square, Round, Sharp edge **Packaging Details:** Box, Blister Pack, Pouch
J	Shakirs tape	Shakir's tape • Material - non tearable PVC • Measurement - cm • Graduations - 1mm • Measuring Range - upto 26.5cm
K	Spine boards with slings and scotch	Spine boards with slings and scotch tape of all sizes <u>Features:</u> ▪ This spine board with safety belts is made of durable PE material with no discharge contaminator, and is resistant to wear ▪ It is a floatable device, and is X-Ray translucent ▪ This model is compatible with most head immobilization devices and strap mechanisms ▪ The spine board is mainly used by hospitals, sports events, ambulance services and outdoor activities for safe patient handling in the event of an accident <u>Specifications</u>: ▪ Product size: 72in X 18in X 2in ▪ Packing size: 73in X 18.5in X 2.75in ▪ Weight capacity: 350 lbs ▪ Straps; 2
L	Teaching set-1. Doll and Dummy 2. Female Pelvis- Each set	<u>Female Pelvis</u> • Material: PVC • Color : White • Size: 29 x 22 x 20 cm • This model consists of two hip bones, a sacrum, and a coccyx. It is attached to the baby's head with a metal strip of a hose that can be bent to any angle. It is suitable for visual teaching aids for teaching midwifery

		courses in medical schools
		• Package included
		  • 1 X Model
		  • 1 X Model

2. Group- II		
(a)	Alcohol Breath Analyzer	Display- Blue backlight 3-digit LCD screen Sensor- High-precision semiconductor alcohol sensor **Detection Range** 0.000-0.199% BAC 0.000-1.990 ‰BAC 0.000-0.990mg/L (BrAC) **Alarm point** 0.050% BAC 0.500 ‰BAC 0.250mg/L (BrAC) **Accuracy** ±0.010% BAC ±0.100‰ BAC ±0.250mg/L **Response Time** <5s **Warm-up Time** <20s **Operating Current** ≤120mA **Operating temperature** 10°c ~ 50°c **Operating Voltage** 3 x AAA alkaline battery (Not included)
(b)	Bilirubinometer Transcutaneous	Bilirubinometer Clinical Purpose: Determining the concentration of bilitubin in the blood or other clinical specimen, most commonly to rapidly assess hyperbilirubinemia in neonates. Clinical department/ ward: Obstetrlcs / Neonatal care / NICU Overview of functional requirements: 1. Measures bilirubin cncentration in a blood smaple 2. Displays total bilirubin concentration (conjugated bilirubin level is optional). TECHNICAL CHARACTERISTICS Technical characteristics (specific to this type of device): 1. Sample volume of <100 μL required, automatic calibration facility

		2. Total bilirubin concentration measurable (At least) in range of 0 to 20 mg/dl.
		3. Time for total concentration measurement: ≤ 5 seconds
		Settings
		Method to recalibrate / save current calibration, set sample size.
		User's interface:
		Backlit disply with easy viewing in all ambient light levels
		Software and/or standard of communication(where ever required):
		Electonic
		PHYSICAL CHARACTERISTICS
		Dimensions (metric): Approx. 110 x 150 x 200 mm
		Weight (lbs, kg): 5 kg - 15 kg
		Configuration : (Ex: Compact, modular, to be fixed to walls, ceiling, etc.).
		Noise (in dBA) : <60dB.
		Heat dissipation : Heat disbursed through a exhayst fan
		Mobility, portability: Easy and safety tranport to be possible by hand, stable when tabletop mounted.
		ENE RGY SOURCE (Electricity, UPS, Solar, Gas, Water, CO2 ....)
		Voltage (value, AC or DC, monophase or triphase): 220 to 240V, 50 Hz
		Tolerance (to variations, shutdowns): Voltage corrector/ stabilizer to allow operation at ±30% of local rated voltage, Electrical protection by resettable overcurrent breakers or replaceable fuses firred in both live and neutral lines.
		Protection:(Ex: Resettable overcurrent mains fuse to be incorporated)
		Other energy supplies: Measns cable to be at least 3 m in length
		ACCESSORIE S, SPARE PARTS, CONSUMA BLES
		Accessories (mandatory, standard, optional) : Hard and splashproof case to be supplied
		Spare parts (main ones): Two sets of spare/replaceable fuses, reagents and capillary tubes sufficient for 100 tests.
		Consumables / reagents (open, closed system): Capillary tubes, haemofluorometric reagents (e.g., awueous cyanide salt with stabilizers, if applicable).
		ENVIRONMENTAL AND DEPARTMENTAL

		CONSIDERATONS
		Atmosphere / Ambiance (air conditioning, humidity, dust ...): Operating condition: – Capable of operating continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances.
		User's care, Cleaning, Disinfection & Sterility issues: The case is to be cleanable with alcohol or chlorine wipes.
		STANDARDS AND SAFETY
		Performance and safety standards (specific to the device type);Certificates (premarket, sanitary, ..); Local and/ or international: Should be FDA /CE approved product Manufacturer / supplier should have ISO 13485 certificate for quality standard. Electrical safety conforms to standards for electrical safety IEC-60601-1. Shall meet IEC-60601-1-2 (General requirements for safety - electromagnetic compatibility)
		TRAINING AND INSTALLATION
		Pre-installation requirements: nature, values, quality, tolerance: Supplier to perform installtion, safety and operation checks before handover.
		Requirements for sign-off: Local Clinical staff to affirm completion of installation
		Training of staff (medical, paramedical, technicians): Training of users in operation and basic maintenance shall be provided
		WARRANTY AND MAINTENANCE
		Warranty: 3 Years
		Maintenance tasks: Advanced maintenance tasks required shall be documented.
		Service contract clauses, including prices: Local clinical staff to affirm completion of installation
		DOCUMENTATION
		Manuals: User, technical and manitenance manuals to be supplied in english language; List to be provided of equipment and procedures required for local calibration and routine maintenace; List to be provided of important spares and accessories with their part numbers and cost.
		Other accompanying documents: User/Technical/Maintenance manuals to be supplied in English.

		NOTES Other inforamtion: Any Contract (AMC/MC/add-hoc) to be declared by the manufacturer. Recommendations or warnings: Any recommendation for best use and supplimentary warning for safety should be declared.
(c)	Goniometer	Goniometer Used to measure angular joint movement. The 360o head should have three calibrated scales used with the ISOM (International Standards of Measurement) system. Clear plastic / acrylic to permit observation of the joint's axis and range of motion. Unit should be durable, unbreakable and of high quality. BIS approved product or equivalent
(d)	Hysteromat	The Hysterometer is a device for sounding of the uterus and comes in different variants. The Polyethylene cursor is designed for accurate and easy reading of the uterine depth. Features & Benefits: ▪ Polypropylene flexible distal part ▪ Rigid handle made out of Polystyrene ▪ Accurate and easy reading ▪ Hystero CH10 ▪ Hystero CH12 ▪ Hystero CH14
(e)	Infantometer	Infantometer (For Pediatric only) ➢ Designed for measurement of premature infants, neonates and children up to approximately 24 months. ➢ Robust, extra-large construction for precise measuring. ➢ Automatically correct lying position due to trough-shaped lying area. ➢ Scale printed along top side for easy reading.
(f)	Fetal doppler	1. Should be compact and light weight not more than 250 gms 2. Large LCD display for display of Foetal heart rate

		3. Back light for better visibility 4. Display signal quality, low battery etc. 5. High sensitivity Doppler probe of frequency 2.5 MHz 6. Ultra sound intensity <8-10mW/cm2. 7. Auto shut off facility to save battery power 8. Built in speaker with output not less than 0.5W 9. Should work on rechargeable batteries with minimum battery time of 300 minutes 10. Battery charger and spare set of batteries AA type to be supplied 11. Volume control facility and audio output for ear phone should be available 12. Heart rate range should be from 50 - 200 bpm with accuracy of +/- 2% 13. Should be water proof body 14. Should have facility for FHR data transfer to PC (Optional) 15. Doppler probe should be light weight with holder facility when not in use 16. Should be supplied with carrying case 17. Should have safety certificate from a competent authority CE issued by a notified body registered in the European commission/FDA (US)/STQC CB certificate/STQC S certificate or valid detailed electrical and functional safety test report from ERTL 18. Copy of the certificate/test report shall be produced along with the technical bid 19. Warranty 1 year
(h)	Proctoscope	<u>Proctoscope: -</u> - It Should be Presterilised - It should be Transparent & Light Weight - Length should be minimum 9 cm - Internal Diameter should be – 1.7 to 2 cm - External Diameter should be - 1.9 to 2.2 cm
(i)	Peak Flow meter	➢ Unsuitable substance Products that attack ABS (Acrylonitrile butadiene styrene) ➢ Material ABS (Acrylonitrile butadiene styrene) Plastic Flow Meter with cardboard mouthpieces ➢ Temperature resistance (°C) -10 to +50°C ➢ Storage temperature (°C) 0 to +50°C ➢ Relative humidity (%) 10 – 95% ➢ Measurement range 50 – 800L/min

		➢ Accuracy Above +/- 10 L/min or +/- 10% of the measurement ➢ Reproducibility Above +/- 5 L/min or +/- 5% of the measurement ➢ Leakage resistance 0.00384 kPa/L/min – 720L/min kPa/l/min ➢ Standard zone 50-800 L/min BTPS ➢ Frequency response Difference between A/B profiles below 15 l/min/15% ➢ Meter for mechanically measuring PEF (Peak Expiratory Flow) Can measure the intensity of an asthma attack and reveal a respiratory deficiency. Adjustable zone marker (green - yellow - red).
		3. Group - III
(a)	Near vision chart with different language	a. The book should consist of 38 plates b. Should be suitable for discovering congenital color blindness and red green blindness, each in two forms, complete and incomplete c. Should include four special plates for tests to determine the kind and degree of defect in color vision. Color plates should be encased in specially designed album-type books for ease of handling
(b)	Streak Retinoscope	Streak retinoscope TECHNICAL SPECIFICATION OF RETINOSCOPE • Should have XL 3.5 V xenon lamp. • Should have spot-light retinoscope projects a circular light beam. Should have slit-light retinoscope with a light beam in the form of a line, simplifies recognition and the • Determination of astigmatic refractive errors. The reflex in the form of a line is moved vertically to the axis across the pupils of the patient with a slight oscillating movement. • Should have shadow moves in the same or opposite direction. Co-movement (plus lines): The patient is long-sighted.

<table>
<tr><td></td><td></td><td>

Counter-movement (minus lines): The patient is short-sighted.
Simple operation with knurled thumb screw. The line and spot image can be focused with the operating element and turned 360º, angle can be read off the integrated scale.
Holder for hanging and fixing the fixation card into position for dynamic retinoscopy.
Should have axis marker.
Two fixation cards supplied. The patient’s eye can adjust optimally to the distance to the retinoscope.
Integrated eyeglass protection.
Bayonet fitting for fast and secure attachment to the handle.
Dust-tight, very sturdy and light casing made of impact resistant plastic.
Simple exchange of the lamp at the base of the instrument head.
Rechargeable handle with LI-ION battery and with USB Charger.
Must be CE certified in addition to ISO-13485.

</td></tr>
<tr><td>(c)</td><td>Gonioscope</td><td>Anti-Reflecting Coating
4- mirror model
Universal style
Lens height- 30-33mm</td></tr>
<tr><td>(d)</td><td>Diplopia goggles</td><td>Lenses Material : Glass
Color : Red/Green
Shape : Square
Size : 8 x 17 x 3 cm
Pile Height : 35 mm
Frame Material : Metal
Used in Worth 4 dot test</td></tr>
<tr><td>(e)</td><td>Maddox wing</td><td>
<table>
<tr><td>Operation Mode</td><td>Manual</td></tr>
<tr><td>Handling</td><td>Portable</td></tr>
<tr><td>Material</td><td>Plastic</td></tr>
<tr><td>Color</td><td>Black</td></tr>
<tr><td>Product Type</td><td>Eye Testing Equipment</td></tr>
<tr><td>Weight</td><td>150 gm</td></tr>
</table>
</td></tr>
</table>

<table>
<tr><td>(f)</td><td>Placido disc</td><td>1.Measuring Technology should be based on Placido disk/ Scheimpflug camera
2 Measurement accuracy - Class A according to the UNI EN ISO 19980-2012
3 Field of View 17 mm X 14.5 mm
4 Placido Rings 22 (18 superiorly, 22 inferiorly)
5 Analysed Points over 100,000 or Measured points over 6.200
6 Illumination Source - Non-visible infrared (950 nm) LED
7 Optics Digital CMOS camera with 1280x1024 pixel resolution
8 Curvature Measurement Range - 15 to 95 D (3.5 to 22.5 mm)
9 Accuracy - ± 0.05 D (± 0.01 mm)
10 Reproducibility ± 0.10 D (± 0.02 mm)
11 HVID (white to white) Measurement Range 10.0 to 14.0 mm
12 Pupillometry Acquired Images: Dynamic, mesopic, Scotopic and photopic (700 nm)
13 Measurement Range0.5 to 11.0 mm
14 Resolution0.1 mm
15 Views • Axial Curvature, Tangential Curvature
16 Videokeratoscopic (Rings, Scotopic, Photopic)
17 Keratometry, Refractive Power, Mean Curvature, Corneal Wavefront
18 OD/OS Comparison
19 Pathfinder for Corneal Analysis Software
20 MasterFit for Contact Lens Software
21 Dimensions • 52 L x 37 W x 50 H (cm) approximately
22 Weight: Upto 20 kg
23 Electrical • 100-240V~: 50/60Hz, 2-1A</td></tr>
<tr><td>(g)</td><td>Prism bar</td><td>Prism Bar
Vertical Prism Bar, with1/2/3/4/5/6/8/10/12/14/16/18/20/25D
Horizontal Prism Bar
with1/2/4/6/8/10/12/14/16/18/20/25/30/35/40D</td></tr>
<tr><td>(h)</td><td>Trail set with trail frame both for adult and children</td><td>
<table>
<tr><td>1</td><td>Trail Lens Boxes along with near Vision Charts</td></tr>
<tr><td colspan="2">1. The lenses should be of 20mm aperture fitted in aluminium mounts of 38 mm diameter, anodized red /gold for negative power and black/silver for positive power.</td></tr>
<tr><td colspan="2">2. The sphere lenses with handle and cylinder without handle.</td></tr>
<tr><td colspan="2">3. The trial lenses should be of good quality, the case made of melamine polished wood, sturdy and attractive finish.</td></tr>
<tr><td colspan="2">4. Lenses – Spheres + and –</td></tr>
<tr><td colspan="2">a. Concave and convex -0.12</td></tr>
<tr><td colspan="2">b. 0.25 to 4.0 in 0.25 steps</td></tr>
</table>
</td></tr>
</table>

		c. 4.5 to 6.0 in 0.5 steps	
		d. 7.0 to 14.0 in 1.0 steps	
		e. 16.0 to 20.0 in 2.0 steps	
		f. 0.25 to 3.5 in 0.25 steps	
		g. 4.0 to 6.0 in 0.5 steps	
		h. Prisms -1/2,1,2,3,4,5,6,8,10,12.	
		5. Accessories-Trial frames, one adult size and one for child, adjustable with slots	
		a. -Red glass	
		b. green glass	
		c. -Pin hole	
		d. –Slit	
		e. -Two blank discs	
		g. -cross cylinder +/- 0.25 and +/- 0.5	
		The lenses should be of 20mm aperture fitted in aluminium mounts of 38mm diameter, anodized red /gold for negative power and black/silver for positive power.	
		SS Hinges of the trial box shall be provided	
		To print KANTIVELUGU logo on the box	
		4.Group -IV	
		(a)	**<u>Ambu bag with face mask – Adult</u>** Adult: - **Adult total bag volume (min 1450 ml or more). Unique singe shutter valve/NRV valve.**, whole resuscitator bag along with Reservoir bag and mask must be autoclavable minimum 25 times (test reports to be provided) , face mask should have thumb rest for proper seal, Bag should be ergonomic design with hand strap for firm grip. The patient valve with swivel facility. **USFDA/CE/BIS and ISO 13485 certified.**
		(b)	**<u>Ambu bag with face mask – Neonate</u>** Neonate: - **Neonate:-Neonate total bag volume (min 200 ml or more) Unique singe shutter valve/NRV Valve.**, whole resuscitator bag along with Reservoir bag and mask must be autoclavable minimum 25 times, (test reports to be provided) Bag should be ergonomic design with hand strap for firm grip. The patient valve with swivel facility. **USFDA/CE/BIS and ISO 13485 certified.**

		(c)	**Ambu bag with face mask – Paediatric** Paediatric: - **Pediatric total bag volume (min 500ml or more), Unique singe shutter valve/NRV valve**, whole resuscitator bag along with Reservoir bag and mask must be auto clavable minimum 25 times(test reports to be provided), face mask should have thumb rest for proper seal, Bag should be ergonomic design with hand strap for firm grip. The patient valve with swivel facility. **USFDA/CE/BIS and ISO 13485 certified**	
		(d)	**Laryngoscope for Anterior** Medium, Universal size, triangular spatula shaped, Lateral outer channels for light carrier and suction with FO light carrier for laryngeal	
		(e)	**Oxygen Head-Box – Each size** Oxygen Head box (of each size) **1.** Round shape or have no joins or corners, and easy to clean **2.** 2. 3 x size small, approx: height 22 cm, diam 25 cm **3.** 3 x size medium, approx: height 18 cm, diam 20 cm **4.** Made of autoclavable polycarbonate **5.** Trauma free silicon neck **6.** Fitted with oxygen connector **7.** An adjustable porthole on top for feeding and suctioning	
		5.Group -V		
		(a)	**Infantometer** Infantometer (For Pediatric only) ➢ Designed for measurement of premature infants, neonates and children up to approximately 24 months. ➢ Robust, extra-large construction for precise measuring. ➢ Automatically correct lying position due to trough-shaped lying area. ➢ Scale printed along top side for easy reading.	
		(b)	**Weighing Machine Digital – Child**	

				Weighing machine Digital - • Led Display. • Zero Tracking. • Simple User-Friendly Operation. • Colour coded and sealed Keypad. • Anti-Slip Adjustable Levelling Feet. • Back Rail Support Provided to support the Indicator. • Environmental Protected Load Cell. • Equipped with overload Protectors. • Built-in Battery Backup. • Auto sleep/ power down function to save battery life. • Large Pan for Adult Weighing 350 x 450 mm. • Capacity – 200 Kg. • Readability – 10 Grams • Patient Supporting Stand attached	
			(c)	**<u>Weighing Machine Digital – Infant</u>** Technical Specification of Infant Weighing Scale – 1. It should be a digital electronic scale 2. Should have capacity weighing range of 0 - 20 kg with an accuracy of ±5 gm 3. Weighing unit: Standard display in grams 4. Pan size: 630 x 300 mm ±25mm 5. Pan material: Fibre resistant plastic (pupe coated) 6. Display: Bright LED or LCD display for easy viewing 7. Should have functions TARE, Auto-HOLD and Automatic switch-off 8. Insulation should be Protection Class II approved 9. Should be light weight and has a handle for easy transportation 10. The scales are only cleaned with normal disinfectants	

				11. Should have operated by battery or power supply 12. Battery backup: At least 3 hours 13. Should have a measuring rod and a head positioner 14. Should be supplied with detachable Baby Measuring Rod with measuring range: 35 – 80 cm with graduation of 1 mm 15. Should be ISO and European CE certified 16. Original (but not the xerox copy) of the operator and service manual to be provided along with the equipment	
			(d)	**<u>Weighing Machine Digital * Neonate</u>** Technical Specification of Neonate Weighing Scale – 1. It should be a digital electronic scale 2. Should have capacity weighing range of 0 - 20 kg with an accuracy of ±5 gm 3. Weighing unit: Standard display in grams 4. Pan size: 630 x 300 mm ±25mm 5. Pan material: Fibre resistant plastic (pupe coated) 6. Display: Bright LED or LCD display for easy viewing 7. Should have functions TARE, Auto-HOLD and Automatic switch-off 8. Insulation should be Protection Class II approved 9. Should be light weight and has a handle for easy transportation 10. The scales are only cleaned with normal disinfectants 11. Should have operated by battery or power supply 12. Battery backup: At least 3 hours 13. Should have a measuring rod and a head positioner 14. Should be supplied with detachable Baby Measuring Rod with measuring range: 35 – 80 cm with graduation of 1 mm 15. Should be ISO and European CE certified 16. Original (but not the xerox copy) of the operator and	

		service manual to be provided along with the equipment
(6)	Otoendoscope	• Should have fiber optics for optimal beaming and transmission of the light. • Should have Bi-directional swiveling optical glass with 3-fold magnification. • Should have Operation lens with 4-fold magnification and glass mini optic ease the insertion of instruments. sets including reusable ear-specula (4 x 2,0mm, 1 x 3,0mm, 4 x 4,0mm, 1 x 5,0mm) • Should be integrated F.O. throat illuminator • Easy-to-operate specula ejection device at the rear side of the otoscope to avoid contamination. • Fitting for specula and enlarged conduit for instruments. • Suitable for pneumatic tests (supplied without ball). • Large selection of power sources: handy and stable handles, practical chargers and well-conceived diagnostic stations. Product should be European CE /USFDA approved.
7	Cardiac pace maker	Dual Chamber Temporary Pacemaker: Specification: 1. Should have touch screen facility for ease of operation. 2. Should have an additional internal battery back up to facilitate quick change of normal AA battery. 3. Should be able to be attached easily to patient arm, let or IV pole. 4. Should have rapid atrial pacing to manage atrial flutter safe reliable. 5. Should have safety awareness ranges to alert clinician to area of caution. 6. Should have modes AOO, AAI, AAT, VOO,VVI, VVT,DDD,DDI,DVI,DAI,DOO, DDT, VDD, AND VAT. 7. Should have basic pacing rate to 30 to 180ppm which is continuously adjustable.

		8. Should have rapid atrial pacing rate 40 to 1000ppm. 9. Should have rapid atrial pacing rate: 40 to 120ppm in steps of 2ppm increments, 120 to 200ppm in steps of 5ppm increments, 200 to 400ppm in steps of 10ppm increments 400 to 1000ppm in steps of 50 increments. 10. Should have an output amplitude 0.1 to 20mv. 11. Should have Atrium pulse width 0.7ms Ventricle 0.5ms and high rate 1.0ms. 12. Should have sensitivity 0.1 to 20mv which is incrementally adjustable. 13. Should have refractory 400ms for AXX modes and 250ms for VXX modes. 14. Should have blanking pace 125ms and sense 75ms. 15. Should have work on 2,1.5 AA batteries which are very easily available in the market. 16. Should have runaway protection depending on rate settings. 17. Should have back up battery life > 150hrs. 18. Should have AV/PV delay 1.5ms to 300ms. Setting automatic depending on rate manual. 19. Should have PVARP 100 TO 500ms setting automatic depending on rate or normal. 20. Should have TARP AV Delay +PVARP with minimum rate + 60ppm. 21. Should have AV/VA blanking 70ms. 22. Should have UTR/MTR rate + 40ppm. 23. Should have noise detection at 125ms in automatic mode switch to asyndronous mode. 24. Pacing cable should be provided. 25. It should be CE approved. 26. Adequate service backup should be available within the state.

8.ENT Operating microscope for major Operation Theatre (with camera attachment & monitor for teaching and recording)

Technical Specifications:	
1. Working distance: **- 200-600+/-25 mm** continuously variable through motorized **multifocal lens, activated through Handgrips and through control panel. Manually adjustable override**	
2 Magnification range :- Minimum range up to 16x or better without adding any additional adapter.	
3 Focusing: - Motorized via multifocal lens activated through Hand or foot switch & Touch screen control panel. Manually adjustable override. The system must provide automatic focusing along with digital control system.	
4 Eyepiece: - Magnetic 10x or 12.5X wide field with dipodic setting +5D to – 5D	
4	**Light Source: -** Should have maintenance-free LED illumination providing Xenon like intensities at 5500K or more with lamp lifetime of 40,000 working hours or more/ 300W Xenon illumination with integrated 300W Xenon back-up with fast action lamp Change over. The microscopes' illumination system must provide an additional light beam path to brighten up shadowed areas in the field of view.
5	6 Illumination Field Diameter:- Should have built in automatic zoomsynchronized illumination field diameter, with manual override and reset feature.
6	7 Automated Illumination control: - Should have automatic Illumination. Brightness control should be linked to working distance. Illumination also can be controlled by hand switch or foot switch.
7	8 Binocular Tube: - Binocular tube for main surgeon which can be pushed and pulled offering flexible positioning, added magnification and integrated rotate functionality. Easily compensate for eye level differences between the surgeon

	and the assistant when operating in a Symmetrical face to face configuration by simply rotating the tube.
9. Automatic Balancing:- **The system must provide a one touch automatic /software assisted balancing of all system axes without any manual Interaction or axis adjustments**	
8	Beam Splitter with Face-to- face attachment: - Integrated Beam Splitter (Not Visible from Outside / separate attachment). Face to face attachment with 0 to 180 Degree inclinable tube for main & opposite surgeon. In face to face two surgeon can able to see through eyepiece and operate all at a time together. Main surgeon and one assistant surgeon.
9	Camera: - Fully Integrated 1 CMOS HD/3CMOS HD Medical grade Video Camera so that maximum resolution will display & record. No external Camera.
10	Display: - Full HD Medical grade touch screen display system attached with the microscope system (No External monitor/ detachable monitor will be acceptable).
11	Recording: - Full HD/4K video recording system with Integrated HDD of 1TB.
12	Stereo Co- observer: - Should have stereo co observation attachment for face-to-face assistant and the attachment should not move in case the head is tilted in forward or backward direction & 360 Degree by the main surgeon.
13	The microscope must offer integrated 360° rotatable tube for better ergonomic observation.
14	Binocular should have PD adjustment knob with range of 55 mm to 75 mm.
15	Binocular should have movement lock in any angle.
16	Remote Access: - The system must provide an interface and a function for fast internet remote diagnosis to be operated via the central touch screen user interface.
17	**Sterile cover with automatic air vacuum technology system must be facilitated by an automatic air vacuum/Auto Drape. Minimum 30 nos. Sterile Drape sheet to be supplied as FOC basis by the same manufacturer. system should compatible with any drape**
20 Damping Correction: - System should have robotic control active vibration / counter weight balance damping mechanism to avoid disturbing vibrations.	

14	USFDA/European CE/ISO/ISI/BIS certified product.
2.	Medical Grade Monitor should be 42inch Monitor or more.

9.Psychological tests equipment 1. Projective tests 2. Intelligence tests 3. Personality tests 4. Neuro psychological tests – Each

. Psychological tests equipment

1. Projective tests
   a) Rorschach ink blot test
   b) Thematic apperception Test
   c) Child apperception Test

2. Intelligence tests
   Children
   a) vineland social maturity scale (VSMS)
   b) Developmental Screening test (DST)
   c) Seguin form board
   Adolescents
   a) Bhatia battery of performance Intelligence test

   Adults
   a) Binet Kamath Intelligence test
   b) Weschler's adult intelligence scale
3. Personality tests
   a) Mini Minnesota Personality inventory
   b) IPDE (International personality disorder examination) Questionnaire
4. Neuro psychological tests
   a)NIMHANS battery

10.PC Based Spirometer

Specification:
1. It should be PC based and should operate on operating system version windows
XP or more and should have minimal dead-space with pre-calibrated sensor.
2. System should be able to generate values for MVV, VC, Peak flow rate and other respiratory parameters of obstructive as well as restrictive lung diseases.
3. The system must be simple to operate, preferably on plug and play system.
4. Facility to have pre & post medication values as well as printing of reports.
5. It should preferably be able to consider and adjust values according to ethnic origin of patients.

6. Automatic device connection facility, integrated pdf generator facility preferably should be there
7. Its flow range should be between 0.03 to 20L/sec and volume range around 8L.
8. It should be equipped with compatible laptop/ desktop and printer

11.Chromatography apparatus

Complete Chromatographic Unit for paper & TLC
Specification:
1. Paper Chromatography Cabinet: It is made of single piece bakelite moulding. The inner size of cabinet is 6 x 8 x 9" with front sliding glass door. The lid of cabinet is also made of bakelite.

1. Stainless Steel Solvent Pot: It is made of 316 Quality S.S. It is having the volume capacity of 150 ml. It is required to hold the solvent mixture. 4
Stainless Steel Hanger: It is a stainless-Steel rod of size 6" and dia 2mm. It is used as hanger of Chromatography paper. It fits inside the grooves of the cabinet.
3. Chromatography Paper "1-Chro": It is the world standard Chromatography paper. A smooth surface, 0.18mm thick with linear flow rate (water) of 130 mm/30 min. Good resolution for general analytical Separation and having following special features:
4. Simultaneous development of multiple samples on the same sheet under identical conditions.
5. Sequential development of the same sample with solvent or different concentrations of the same solvent.
6. Suitability for two-dimensional chromatography (change in direction of the solvent front) with possible
7. improved resolution.
8. Drying Stand: One stand is supplied to accommodate processed (wet) Chromatography paper and to put it in oven to dry the same.
9. Glass Sprayer with Rubber Balloon: The sprayer is made of Borosilicate Glass, specially designed for spraying the indicators on Chromatography Paper. A rubber balloon is connected to it.
10. Glass Syringe: Glass syringe capacity 20ml. is provided to draw the solvent from S.S. Pot after practical is over.
11. TLC Capillary: Pkt. of 25 high quality fine capillaries are supplied with cabinet.
12. Size 27 x 27 x 29 mm

12.Electrophoresis

Complete Electrophoresis apparatus with power supply (Paper,
PAGE, agarose
Specification:
A**. Electrophoresis Unit** with Compatible Power supply Unit

1. Capacity to run up to 4 mini-gels
2. Supplied with tank, lid, companion module, buffer dam and power cable
3. 1 box each of combs, spacer plates and short plates
4.2 gel-casting stands and 4 frames
B. **Basic Power Supply Unit**:
1. Output: 10-300 V (Adjustable by 1V); 4-400 mA (Adjustable by 1mA);
75 W max with constant voltage or constant current (interchangeable)
2. 4 pair of banana jacks in parallel
3. Time setting (adjustable): 1 min- 99 h 59 min with pause/resume function
4. LED display
5. Can operate at 0-40 OC; 0-95% humidity in absence of condensation
6. All safety features including detection of no-load, rapid resistance change, ground leak, over-load, short-circuit
7. Over-voltage protection and over-temperature protection 8. Compatible with Bio-Rad electrophoresis unit
Certificates: Notified CE/BIS/FDA and ISO 13485

13.Pure tone Audio meter
1) Should be Simple and convenient to Operate
2) Portable Diagnostic Instrument : AC, BC, Speech and Free field Audiometer
3) Special tests such as short Increment Sensitivity Index (SISI), tone Decay test and Alternate Binaural Loudness Balance (ABLB)Test
4) Mixing signals and channels can be mixed independently
5) Speech tests from SD-memory card, CD or microphone
6) Direct printout of the results or store report as PDF on USB memory stick
7) Patient database for more than 1000 test results
8) Options include FF speakers, insert phones, PC interface, High Frequency – up to 10 KHz etc
9) Range of frequencies from 250 HZ to 8000 HZ ,-10 dB(minus 10 dB HL) to 100 dB
10) Increments of 5 dB
11) Frequency deselect ion: The following frequencies can be deselected in the setup: 250, 500, 750, 1500, 2000, 3000, 4000, 6000, 8000Hz.
12) Input : Tone 5 Hz or True sine wave frequency modulation •INPUT: Tone, Speech, Tape, Pulse Tone.
13) Output : Either to right and left speakers and also earphones •HEADPHONES: •BONE: BONE CONDUCTOR.
14) Tone decay test available
15) White noise masking

16) Both Air and bone conduction facility
17) For Free field : should have 2 separate good quality Speakers
18) Should also have good quality Head Phone
19) Could be operated both on battery and AC with built in voltage regulator
20) Should have facilities for bone conduction Hearing Threshold Range: 0 to 90 (up to)dB in 5dB steps
21) Accuracy better than ± 2 dB
22) Harmonic Distortion - less than 3%
Warranty 3 years warranty from date of installation

Note: - All other accessories price break-up must be submitted.

14. Vacuum Extractor and suction Machine

1. Should have automatic, programmable & electronic microprocessor controlled vacuum extractor with LCD display
2. Should have automatic Vaccum control for increased safety with sensor monitored vacuum
3. Should have automatic vacuum generation and reduction with pre selectable parameters
4. Should have suction capacity minimum -625 mmHg
5. Should have airflow rate minimum of 36 L/ min capacity (2ltr +/-)
6. Should have hygienic hydrophobic bacterial filter with filter change indication available on display
7. Should have electronic filling level control with over suction protection
8. Should have the vacuum pre selection by finger touch key press
9. LCD display should show the time progress with audible action signals
10. Should include accessories of silicon cups of 50 mm & 60 mm
11. Pump noise level should not exceed more than 50dB
12. The equipment should be multifunctional and able to be used for freeing the respiratory track, also as a suction curettage & as a breast pump
13. The system should have a collection jar of 1.5 ltr glass with a double hose connector.
14. Should have international protection class certification
15. Should have European CE or US FDA or BIS

15. Baby incubator

1. The incubator specifications should confirm to the following

2. Working temperature range: 30 to 37°C (Patient display mode)
   : 30 to 37o C (Air set mode)
3. Accuracy: +/- 0.2 o C
4. Resolution: : 0.1o .C
5. Accuracy of probe Interchangeability: +/- 0.2oC
6. Temperature Probe: Thermistor based interchangeable probe
7. Alarms: High & Low temperature, Power failure, Battery low, Probe failure. Fan failure
8. Voltage: 90 to 240 V at 50/60 Hz
9. Power: 500 Watts maximum
10. Heating element: Flat heaters
11. Temperature display: Bright numerical LED display
12. Messages and alarms: LCD display/**Seven segment display**
13. Battery backup time: Minimum 2 hours
14. II) PERFORMANCE SPECIFICATIONS:
15. Should have Temperature rise time: 45 mins per 10o C
16. Should have a fixed height trolley with minimum 100 Kgs Capacity for easy movement of Equipment
17. Should have inbuilt battery charger and battery should be part of equipment
18. Should have two Elbow operateable ports.
19. Should have head access door to pullout the bed
20. Should have front access door
21. Stretcher should have option for head end elevation, adjust height. And should have collapsible limbs while moving into ambulance.
22. Should have one iris port and minimum 3 tubing ports
23. 3 disposable infant restraint straps
24. Should have an Indicator for power ON.
25. Should have an Indicator for heater ON.
26. Should have four wheels, at least 2 with brakes.
27. Should have IV stand
28. Should have goose neck examination lamp for flexible examination.
29. Coating: Epoxy/Powder coated body for scratch and rust prevention
30. Should be supplied from a manufacturing company having ISO 9001 and ISO 13485.
31. 3 Years warranty

16. HHHFNC (heated humidified high-flow nasal cannula) with circuits and interfaces for all age groups (neonates, infants, children, adolescents and adults)

1. The device should have Integrated flow generator to deliver wide range of flows from 2 liters to 60 liters
2. It should have integrated Air oxygen blending and fio2 monitoring with facility to deliver wide range of oxygen concentrations from 21 to 100 %.
3. Oxygen sensor in the device does not require in field calibration
4. Clinical menu for setting range of F io2 and flow settings

5. Inbuilt heated humidifier to deliver warm and humid gases to airway. The humidification chamber should have dual float with auto feed system
6. Display to monitor temperature of humidified gas, flow rate and fio2.
7. Visual and audible alarm indication for
    a. Tubes disconnect Leaks, tube blockages, and Water out and hardware fault with error codes. Audible power failure alarm
8. The device should have thermal disinfection mode to minimize contamination. Heated tube for sterilization of the device should be provided with the device. (Any methodology/technology to disinfect the device with requisite accessories.
9. Consumables and accessories
    a. Patient breathing tube should be light weight with integrated heating wire and insulating layer to minimize consideration – 20 Nos Adult and 25 Nos pediatric.
    b. b. Nasal cannula of different sizes Soft, Flexible anatomically contoured nasal cannula and tubing with breathable membrane. 10 Nos Adult and 40 Nos pediatrics (10 Nos of each size to suit different paediatric sizes). (The cannula should have customized head strap with adjustable clip to support the weight of the circuit.)
    c. Cannula should have soft check pads to ensure more stability and reduce pressure on face.
    d. Direct Tracheostomy interface
    e. High flow meter for Oxygen up to 70 lpm with oxygen house.
    f. Air filter - 4 Nos
    g. Oxygen inlet extension tube – 3 No
10. Mounting tray with pole with castors & IV hook
11. Supply frequency: 50/60 Hz, Supply voltage: 220-240 v
12. Sound pressure level 45 dbA@1m
13. Oxygen analyzer accuracy ± 10% (within range of 25 – 80 % Fio2)
14. The unit should be compliance with international standards. IEC 60601 and ISO 13485 quality standard
15. Certification it should be US FDA or European CE approved
16. It should be suitable for use in ICU recovery wards and emergency department.
17. 3 years warranty & 4 years CMC with spares excluding consumable accessories

17. <u>ETO steriliser</u>

1	Fully automatic ETO Sterilizer designed with embedded software (windows 10 OS) that automatically controls and independently monitors the physical process parameters to ensure sterilization conditions are maintained throughout the sterilization cycle.

2	System should be 100% Ethylene Oxide Gas Sterilizer
3	Capacity of Chamber Volume should be around 224 liters with dimensions of 18*20*38 inches.
4	Should have fully automatic single door system
5	The Sterilizer chamber should be made of corrosion free durable anodized aluminum alloy metal
6	System should operate on Single Dose 100% ETO Cartridge. The cartridges should be of same OEM as the manufacture.
7	Gas cartridges sshould be EPA certified. The certified should be specially for the consumables.
8	The manufacturer of the quoted product should have EN ISO 13485 certificate issued from a notified body or ICMED 13485 (with or without plus)certificate issued from certification bodies accredited by NABCB or ISO 13485 certificate issued from certification bodies accredited by NABCB/Nationally Recognized Accreditation Board under IAF MLA.
9	The quoted medical device must be registered under CDSCO and submit the license for manufacture to sale or distribute the medical device. If not registered, the acknowledgment copy of the online application for the said registration must be uploaded in the bid.
10	Should have Barcode reading facility to monitor the batch / lot number of the cartridge
11	Operating Temperature of the sterilizer should be between 35 deg to 60 deg Centigrade
12	Sterilizer should have option to run half cycles (with reduced exposure time), Cartridges disposable cycle and aeration cycle.
13	Sterilizer should have controlled stages of sterilization process and have user friendly touch panel screen. It should display estimated remaining cycle time, and control sensors for temperature, %RH, and pressure that provide information to the control embedded software during the entire cycle processing with chart.
14	Sterilizer should have operator password protection to start / End the process

15	Area Heat Radiation should not exceed 6,250 BTU/Hr
16	Sterilizer should have minimum dual Relative Humidity Sensors and should be Software controlled for Continuous Monitoring of RH for entire cycle process
17	Sterilizer should have multiple position dual temperature sensors and should be software controlled for continuous Monitoring for entire cycle
18	Sterilizer should be incorporated with Alpha – Numeric Graphical Thermal Printer with option of Graph / Table / Detailed cycle report preferences
19	Sterilizer should store minimum 100 previous sterilization cycles
20	Sterilizer should have minimum 2 Universal Serial Bus (USB) port and at least one Ethernet port
21	Sterilizer should have an option to download the processed cycle data through USB port or on network.
22	Vaporizing chamber for low temperature steam, gas and air injection system
23	Dual Zone heating system with variable parameter settings of time, temperature, RH, Gas Exposure and Aeration depending on load and composition of material
24	Should operate on automatic gas puncturing system under NEGATIVE PRESSURE ensuring operator safety.
25	Gas cartridge should puncture automatically between negative pressure of 100m to 200m bars
26	Chamber Gas concentration to be maintained and monitored between 700 to 800mg/ltr during gas exposure period for effective sterilization
27	Sterilizer should automatically enter into inbuilt Aeration Cycle after Sterilization is completed which should be indicated in the visual display provided in the equipment.
28	Sterilizer should have password protected access to emergency aeration.

29	Sterilizer should have all major compliances certification like ISO, USA FDA, UL, CE, etc
30	Sterilizer should be UPGRADABLE to any new version of software
31	System should have In-built Calibration features available in the Equipment and a validation port to perform external calibration/ validation of the equipment.
32	Fully equipped with certified trained Engineers available in India.
33	100 plus installation of similar / equivalent equipment in India.
34	Prices of consumables to be quoted for 5 years
35	Warranty -3-yrs
36	CMC – 4 years

18.Operation Theatre Ceiling light double Dome

1	Description of function
2	Led surgical lights illuminate the surgical site for optical visualizing of small low contrast objects at verifying depths incisions and body cavities.
3	General requirements
	The light shall adopt led technologies to create a homogenouslight patch without emitting any infrared rays.
4	The light systems shall be double light heads, one major and onesatellite.
5	**Light should have electronic focusing from LCD touch screen control panel / manual focusing through handle.**

6	**At least 2 color LEDs in one module to get more CRI**
7	**High power LED should be used to provide high lumen to watt ratio which leads to lesser energy consumption and low heat at surgical area. (Min 2.5 watt each LED).**
8	**Deleted**
9	pulse width modulation-controlled driving to ensure less heating of led which increases
10	the major dome shall with automatic illumination control systemwith sensors on the light head. when some part of led is masked by surgeon's head or shoulders. the remaining led's will becomebrighter automatically to compensate the losing illuminaton.
11	light for endoscopy mode.
12	light intensity shall be adjustable between 30% -100% and shouldhave low intensity endoscopy mode.
13	light intensity light field diameter and color temperature shouldbe controlled from light arm control panel
14	**The light head shall be of a shape to avoid obstruction to laminar flow on surgical field. Laminar flow comply certificate to be provide**
15	The color temperature shall be synchronized & controlled by either light head control panel and wireless control panel
16	the light shall be mountable to celling from single center with 330-degree rotation of all arms. spring arms shall be rotatable at least 330 degree around its own axis.each light head should be rotatable with 540 degree at connecting joint with spring arm to facilitate unobstructed operating field coverage.
17	the thickness of the light head shall be no more than
18	body of light dome should be of aluminum & all led should be directly mounted on aluminum body which is exposed to room temperature for proper cooling of led for prolong working.
19	the surgical light should be complete with all components for celling mount and electrical feed-in including finalized installation
	technical requirement of the major dome and satelite dome
	1. major dome should be atleast 700mm with Minimum 96 LEDs or More
	2.minor dome should be atleast **700 mm or more** **&** **96 LEDs or more LEDs** or More
	2. central illuminance should be **160000 lux & 160000 lux for both domes.**

	3. light field diameter should be adjustable form 150 mm to 250mm.
	4. color temparature (k) adjustable from 3500-5000k
	5. color rendering index ra should be 95 or more.
	6. depth of illumination (l1+l2) should be 1000 mm
	7. dimming range should be between 30-100%
	8. endoscopy mode illumination should be available
	9. the camera output should be displayed on the 22" led panel on the 3rd arm as well as it can be recorded on the recorded supplied maximum setting. **The video management should be upgradable**
	power supply should be 100-240v ac, 50-60hzc standard
	ISO 9001:2015 from NABCB accredited body
	ISO 13485:2016 from NABCB accredited body
	CE certificate – class 1
	USFDA/European CE (4 digit from a notified body) /BIS/CDSCO.
	Light dome should have IP55 certificate.
	Should compliance with IEC 60601-1, IEC 60601-2, IEC 60601-2-41 demonstration of the equipment matching all atc specification is mandatory

19. Diathermy machine under water cutting

• Unit should comprise of the following functions and Accessories:
• **An integrated Electro Surgical Unit (For electrosurgical Cut & Coagulation modes, vessel sealing and Bipolar Resection in a Saline Solution)**
• The Electro Surgical Generator Touch Screen Display should be user friendly, and Unit should be working on automatic power dosage principle wherein there should be no need to preset any wattage and the system automatically and continuously adjust the power output based on the tissue impedance so that as much power is delivered as much is necessary with least thermal spread and highest degree of safety.

• **Unit should facilitate functions of monopolar, bipolar, Vessel sealing & bipolar resection in a saline solution.**
The system should make 400000 measurements/sec or better for enhanced tissue effect and should measure tissue impedance through power peak system. (to be shown in catalogue).
Offered Equipment should be BIS/CE with notified body/US-FDA approved (Certificate to be enclosed)
• **The unit should have facility to upgrade/compatable to argon plasma Coagulation/Hydrojet**
• **Deleted**
System should have remote function to increase and decrease the power from sterile field.
• **The system should have 1 Bipolar socket ,2 Monopolar sockets and one socket for bipolar Resection in a Saline& vessel sealing.**
Unit should have the facility to store 100 programs or applications.
Deleted
• **Deleted.**
• The system should **be 300 to 400 watts** with 15 digital signal processors working in parallel for enhanced measurement of tissue impedance and have Wi-Fi communication interface facility to access, change and save the settings
• **Bipolar socket should support the Auto start function for bipolar instruments.**
Unit should have precise sect/Bipolar cut mode for optimized dissection in open or laparoscopy case.
• **Unit should have an Auto Cut/Smart bipolar mode or equivalent to facilitate bipolar cutting instruments.**
• **Deleted**
• **The footswitches should be 100% waterproof /water resistance.**
The system should have a neonatal function/Patient plate monitoring system with alarm.
• Following accessories to be supplied:
System should have separate monopolar, bipolar & Vessel Sealing foot pedal. There

should be an option of enabling or disabling the footswitches.
System should have separate monopolar, bipolar & Vessel Sealing foot pedal. There should be an option of enabling or disabling the footswitches.
System should be compatible with Silicon/Polyhesive contact quality monitoring.
• Electrosurgical two button hand switching pencil, single use - 10 nos.
Laparoscopic 5mm US-FDA/CE Approved Reusable Vessel Sealing Instrument – 1 No OR Disposable- 20 No to be provided.
• Monopolar Adapter Bovie jack -MO 8-socket 4mm or equivalent for monopolar adaptor purpose-1no
Under Water Bipolar Resection Cable - 1 no **Monopolar Cable – 1 No** **Bipolar cable – 1 No**

20. Ophthalmology Operating microscope with Monitor with camera
Description of Technical Specification
• Optics: Apo-Chromatic Optics/ Apo-Chromatic corrected Optics
• Eyepieces: high eye Wide field 10x or 12.5x or 16x
• Total Magnification: 0.4 x to 2.5x
• Binocular: 0 to 90 Degree or more Tiltable
• Magnification: continuous zoom 1:5 or more
• Working distance: F= 200mm from Objective Lens(Optional=225mm)
• Field of View: 9.1 mm to 49 mm
• Optics: All Objective Lens should be strain proof & Anti-reflection Coated
• X-Y coupling 25mmx25mm (Minimum) With Footswitch Control
• Fine Focus 30/30 mm (Minimum) With Motorized Control
• Multi-Function wired foot switch (XY Direction, Fine Focus UP/Down, Zoom Magnification Up/Down, LED On/Off
• LED Bright day Light adjustable filed (UV IR Free)
• Rotatable Filter- Blue, Heat Absorbtion Filters and Retinal protection filter
• Light Source LED
• Non-Corrosive, Mobile floor stand with wheels and lock
• Dust Cover
• Online UPS Support/Power backup with 1 Hour backup
• Red reflex enhancer with variable angle of illumination
• Should be USFDA/European CE Certified with 4 digit notifying body/ BIS approved and Manufacturer should be ISO 13485 certified.

Balance items – Pathology Equipment		
1	Incubator	21
2	Liquid based cytology	11
3	Flow cytometery-10 color 5 lasers	1
4.	Trinocular microscope with camera/LED Screen attachment.	11
5.	Grossing station	21

Technical Specifications:

1. Incubator
Specifications
1. The Temperature should be controlled by the microprocessor based digital temperature controller with LED Display along with provisional for manual thermometer recording
2. Inner chamber capacity: 120 L
3. Temperature Range: Ambient to 80°C
4. Interior Chamber: Stainless Steel for easy cleaning and decontamination, rust free
5. Digital display of temperature and time
6. Timer: 1 minute to 100 hours and hold position
7. Heating and Natural convection for homogenous temperature distribution
8. Temp. accuracy : +/-1°C
9. Inner chamber should have transparent glass / fiber door for observation
10. Minimum 2 adjustable shelves
11. Power 230 +/110V, 50 Hz
12. The equipment should be ISO 13485 and CE
General requirements:
• Warranty: Three (3) years warranty
• User / Technical / Maintenance Manuals in English to be supplied
• List of important spare parts and accessories with their part numbers
• certificate of calibration and inspection from the manufacturer
•Attach original manufacturer's catalogue and specifications sheet. Photocopy/ computer print will not be accepted. All technical data to be supported with original product data sheet.
• Satisfactory working of quoted model from institute repute
• Valid ISO 13485 and CE/BIS/USFDA
Technical Status
Remarks

2. Liquid based cytology system

1. Should do liquid based PAP test by automated preparation of Liquid based cytology slide
2 System should employ a fluid transport medium to preserve cells, eliminate debris and distribute a representative portion of cells on slide in a uniform
even layer
3 The prepared side should be clear easy to read and free of obscuring blood, mucus and nondiagnostic debris.
4 System should be able to process both gynecological as well as non-gynecological cytological samples.
5 System should be high-throughput with batch processing and be able to process at least 25 samples per hour in one batch.
6 System should have a touch display interface.
7 System should have a barcode reader to maintain chain of custody.
8. The prepared slide should have a uniform thin layer of cells located in a fixed area on the side for efficient analysis and shorter screening time per side
9.The system should allow preparation of multiple slides per vial and the residual sample left after pap slide preparation should be suitable to be used for
ancillary tests.
10. The system should have proven statistically significant decrease in unsatisfactory cases
11. The system should have proven increase in detection of significant lesions over conventional Pap smears
12. The system should be US-FDA 4 digit CE/BIS approved for use in preparation of liquid based cytology slides as well as HPV DNA testing using
approved methods
13. Sample collection vials and reagents for 5000 samples should be provided free of cost with the equipment at the time of installation.

14. A detailed training operating brochure should be supplied while installing the machine
15. List of all institutional/ organizational supply with performance certificates should be provided with technical bid
16. The equipment should be supplied with a branded 5 KVA online UPS with batteries for 120 min back up
17. Any service, either supporting or repair, should be given without any hassle by the supplier.

3. Flow cytometer

1.A Bench top Flow cytometer analyzer with 488m 640 rim, 405 nm and 355rum lasers.
2 It should have capability of simultaneous 18 fluorescence (20 parameters) measurement It should be upgradable with
3 more lasers and the instrument should have seven beam spots for using T lasers simultaneously
4. It should have fixed optical assembly with spatially separated laser beams for less spill over
5 Instrument should have QC feature which would help to track system performance and be able to adjust for instrument variability
6 System should have Low, medium, and high flow rates
7 The system should have reflective collection optics System
8 should have Fluorescence Sensitivity of less than or equal to FITC-90, PE-40 MESF
9. It should have digital acquisition system for signal processing
10 Instrument should have feature of inbuilt walk away automation for analysis from 96 and 354 well plates directly
11. The system should be able to acquire 35,000 events/second or more.
13.5 Units: mm/inch
13.6 Easy to use
13.7 Video Recording
13.8 Report Printing
13.9 Identification mark on Tissue Measuring

13.10 Warranty: Three (3) years warranty
13.11 Valid ISO 13485 and CE-IVD/ BIS/USFDA
12 held come with compatible work station and necessary software for data acquisition and analysis and colour printer
13. The Data management system should have the folowing specifications pc workstation with at least 3.0 ghz,160 Gb hard drive, dvd/cd-rom read/write combo drive, two 22 LCD monitor
14. The company should have minimum of 150 installations in the country and should provide the list of installations, full address
15. The company should have full-fledged flowcytometry training centre in India providing regular training courses on research applications with documented proof
16. The company should provide regular software updates, whenever released, free of cost for the entire life of the instrument
17. The company should provide 3 years warranty
18. The company should provide Flow Jo advanced offline analysis software (Licensed version).
19 The company should supply all the start up reagents free of cost.
20 The instrument should have UPS back-up of at least 30 minutes
21. The company should provide onsite training for scientists and application training to three scientists, free of charge, including travel
22. The company should shift the complete instrumental set up and reinstall from one campus to another campus, free of cost, as and when required
23. Valid ISO 13485 and CE-IVD/BIS/USFDA

4.Trinocular microscope with camera/LED Screen attachment
Specifications
Microscope Body: Inverted trinocular microscope with Infinity corrected optical system with light distribution between eye piece and camera port of 100:0/ 20:B0/ 0:100 Observation technique Bright field, Phase contrast & Fluorescence. Microscope should be upgradable to DIC, Emboss Contrast (pseudo 3-D) observation technology. System should have upgradability feature to on-stage top incubator and Hydraulic micro manipulator.
Eyepiece: 10X with FOV 22mm and diopter adjustment facilities on both eyes, ant-fungus type.
Condenser: Focusable ELWD N.A-0.30 (W.D-72MM) Focusable, Phase slider center able, Ph1, Ph 2, BF, Phase centering telescope or better
Quintuple side orientated nosepiece or better
Stage: Attachable mechanical stage with universal holder to accept all types of specimen holders.
Illumination: High intensity uniform brightness distribution (Fly eye lens technology) scientific Grade LED (20-30W power consumption) cool white light/Halogen, with life time of 60,000 hrs. or more.
Objectives: Long working distance objectives with specialized phase contrast, Bright field and Fluorescence. > Achromat 4X, NA 0.10, W.D.30.Omm. > Plan Achromat Phase 10x, NA 0.30, W.D.16.Omm; Ph1 > Plan Flour LWD 20X NA 0.45, W.D. 7.5-6.0mm Ph1 with cover glass correction 0-2.Omm. > Plan flour LWD 40X, NA 0.60, W.D. 3.6-2.8mm Ph2 with cover glass correction 0-2.Omm. > System should be capable to upgrade with 100X oil magnification as research required.
Fluorescent attachment: Epi-fluorescence rotating filter turret (with main body), Filter cubes with noise terminator mechanism, configure with up to 3 Epi-fluorescence filter

cubes, Additional positions for bright-field observation, Fluorescence illumination of LED Filter set of DAPI, FITC and TRITC. LED lights source of over 10,000 hour's life time. Fluorescence Filters and Fluorescence LED will synchronize while changing the filter to reduce photo bleaching. Automatic LED fluorescence illumination intensity recognition function. Should have feature to replicate illumination power of same wavelength to reduce minimum adjustment.
Camera: Digital CMOS Camera system: Scientific microscopic digital CMOS colour Camera system: High resolution sclentific CMOS camera of sensor size should-be (1/1.8 inch & image sensor 6.9mm X 4.9mm), QE 60%, resolution of at-least 5.9 MP or more, 10-15 frame per-second live display, Live cell imaging, USB 3.0 PC interface, Exposure time:100usec to 30 sec, Exposure control: One-push auto exposure. Suitable C mount should be provided. Camera should be capable to capture BFIPHIFluorescence images. Microscope, Objective, amera and software should be from same manufacturer.
Software: Licensed imaging software for 4-D imaging, Fluorescence channel mixing / un-mixing, image analysis, live cell imaging, AVI, multichannel& multipoint image capturing, Intensity measurements, Automatic counting, manual counting, line profile, spatial measurements such as length, width, area, perimeter, etc.
Data Processing Unit: Branded PC with i5 processor, minimum 4 GB RAM, 1TB HDD or higher, Original Windows 70Ssuitable, DVD RW, at least 18-19"TET monitor, keyboard, mouse, UPS, Colour printer.
PHYSICAL CHARACTERISTICS: Mobility portability: Portable **ENERGY SOURCE (electricity, UPS, solar, gas, water, Co2..)** 3. Power Requirements. Input voltage- single/3-phase. 4. Protection: Should have over-charging cut-off with visual symbol.
ACCESSORIES, SPARE PARTS, CONSUMABLES: Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables/ reagents (open, closed system): Should provide with wooden storage box, dust cover, immersion oil to be listed.
ENVIRONMENTAL AND DEPARTMENTAL CONSIDERATONS: Atmosphere/Ambiance (air conditioning, humidity, dust.)

3. Operating condition: Capable of operating continuously in ambient temperature of 10 to 50 deg C and relative humidity of 15 to 90% in ideal circumstances. 4. Storage condition: Capable of being stored continuously in ambient temperature of 0 to 50 deg C and relative humidity of 15 to 90%.
User's care, Cleaning, Disinfection & Sterility issues: 3. Disinfection: Parts of the Device that are designed to come into contact with the patient or the operator should either be capable of easy disinfection or be protected by a single use/disposable cover. 4. Sterilization not required.
STANDARDS AND SAFETY: **Should be USFDA/ CE/BIS approved product.** **Manufacturer should have ISO 13485 certification**
TRAINING AND INSTALLATION: Pre-installation requirements: nature, values, quality, tolerance: 3. Availability of 5 amp socket; 4. Safety and operation check before handover;
Requirements for sign-of: Certificate of calibration and inspection from the manufacturer
WARRANTY AND MAINTENANCE: Warranty: 3 years Maintenance tasks: CMC 5 years 2 PM Visits Annually. All Breakdown calls to be attended within 24 hrs of registration. Service contract clauses, including prices: The spare Price list of all spares and accessories (including minor) required for maintenance and repairs in future after guarantee/warranty period should be attached;
DOCUMENTATION: Operating manuals, service manuals, other manuals: Should provide 2 sets (hardcopy) of:- 6. User, technical and maintenance manuals to be supplied in English language along with machine diagrams; 7. List of equipment and procedures required for local calibration and routine maintenance; 8. Service and operation manuals to be provided; 9. Advanced maintenance tasks documentation; 10. Certificate of calibration and inspection Other accompanying documents: List of

important spares and accessories, with their part numbers and cost;
NOTES: Service Support Contact details (Hierarchy Wise, including a tol free/landline number): Contact details of manufacturer, supplier and local service agent to be provided; Any Contract (AMC/OCMC/add-hoc) to be declared by he manufacturer; Recommendations or warnings: Any warning signs would be adequately displayed.

5. Grossing station
Specifications
1. Grossing Workstation with backdraft violation is made up of high-grade stainless steel 304 and has continuous airflow along the entire work area. It has two sprinkler systems for cleaning of the entire work area for both the operators. Control panel, located at the center is easily controllable by both the operators
2. Made of high grade 304 Stainless Steel
3. An in-built ventilation system for removing formalin fumes
4. Storage compartment on both sides
5. Magnetic tool holder
6. Sink withhold and cold-water faucet
7. High-capacity waste disposal unit
8. Polyethylene dissecting board with ruler and contrast area to easily see the biopsy
9. Sturdy perforated insertable work plate
10. Sprinkler system with an adjustable valve for bath sanitation located underneath the perforated working plate an drawers
11. Integrated illumination for an entire work area with an additional spotlight
12. Storage shelf to keep the necessary tools in the reach of operators.
13. Software Features
13.1 HD Camera with LED Illumination
13.2 Touch Screen Monitor for easy operations
13.3 Unlimited Data Record of Patients
13.4 Zoom-in/Zoom-out Image Process
13.5 Units: mm/inch
13.6 Easy to use
13.7 Video Recording
13.8 Report Printing
13.9 Identification mark on Tissue Measuring
13.10 Warranty: Three (3) years warranty
13.11 Valid ISO 13485 and CE-IVD/ BIS/USFDA

Balance items – Medical Colleges

1.	**Group-1**	
(a)	Brain knife	25
(b)	Cabinet for slides (1000)	15
(c)	Dissecting instruments for cadaveric dissection	30
(d)	Steel trays (Big & Small)	10
(e)	Wet specimen jars	625
(f)	Hand saw, preferably metal	15
(g)	Plastic tanks for storing soft and dis,sected parts	50
(h)	Spirit lamps	10
(i)	Tuning fork to test hearing 32-10000 cps (sets-100, 256, 512 Hz)	150
(j)	Electrodes	10
(k)	Knee hammer	150
(l)	Perimeter with charts (Lister's)	10
(m)	All glass distillation apparatus	5
(n)	Tooth Extractor Left & Right	5
(o)	Dissection Set Complete	10
(p)	Hack Saw	10
(q)	Measuring Tape (Steel Tape Roll)	10
(r)	Rib Shear Left & Right	5
2.	**Group-2**	
(a)	Human tarso	5
(b)	Obstetrics mannequins including Obstetric examination, conduct and management of vaginal delivery.	5
3.	**Group-3**	
a	Mannequins for demonstration of enema	20
b	Mannequins for demonstration of Intracardiac injection	20
c	Mannequins for demonstration of	20

	vaginal pessary	
d	Obstetrics mannequins including Obstetric examination, conduct and management of vaginal delivery.	5
Individual items		
4	Densitometer with computer	5
5	Spectrophotometer	5
6	Auto strainer	5
7	Biosafety Cabinet Type - 2A	5
8	Bottles for blood culture	500
9	Culture Plates/ Petri Dishes	1000
10	Desiccators	5
11	Digital Automatic camera > 5 megapixel	5
12	Digital SLR at least 20 megapixels with micro, macro, wide angle zooms lenses, Flash and other accessories	5
13	Dropping bottles	500
14	Fluorescent Microscope	5
15	Flow cytometer	5
16	Glass wares including Pasteur Pipettes Each	500
17	Graduated cylinders for various capacities ranging from100 cc to1000 cc.(100, 250,500,750 and 1000 Each)	100
18	HPLC	5
19	Immuno fluorescence Microscope	5
20	Lyophilizer	5
21	Microfuge	5

22	Reagent bottles	500
23	Real-time PCR machine (Calibrated for the fluoro phoredyes with 2 UPS 2KVA each, with 2 hours back-up)	5
24	Ultra-centrifuge > 14000 RPM	5
25	UV Transilluminator with photography	5
26	Virology Service Laboratory shall be a BSL-2 level laboratory, it includes the following areas	5
27	OAE Impedance audiometer	5

Technical Specifications:

	Technical Specifications
S. No	**Item Name**
	Group-1
(a)	Brain knife Knives are of premium quality of cutting instrument segment, high quality stainless steel with heat-treat our blades. Features: Edge technology creates a blade that is sharper out of the box, holds its edge longer and is easier to re-sharpen; Handle materials used are selected from a variety of man-made and natural materials, providing the best appearance and performance or S.S.
(b)	**Cabinet for slides (1000)** Made of ABS with having provision of storing the Slides(1000 Nos)
(c)	**Dissecting instruments for cadaveric dissection** • Tooth Forcep (SS) – 6” • Plain Forcep (SS) – 6” • Pointed Scissor (SS) – 6” • Blunt Scissor (SS) – 6” • BP Handle (SS) – 6” • Small pointed Scissor (SS)- 4” • BP Handle Blade / Surgical Blade – 24 No. • Artery Forcep (SS) – 8” • Brain Cutting Knife (SS)– 12” • Retractor (SS) – 8” or 12” • Rib Cutter (SS) – 8” • Surgical Suture Needle (Half Circle) with thread – 1no. & 6no. The above mentioned all

	materials should be SS 304
(d)	**Steel trays (Big & Small)**
(e)	**Wet specimen jars (Small, Medium, and Large)** Suitable for keeping the wet sample for long time
(f)	**Hand saw, preferably metal** 1.which leads to less friction. 2. Blades should be chrome plated to prevent body fluid /chemical corrosion. 3. For HRC, Blade materials should reach 52 degrees and teeth reaches 60 degrees (+/ - 3). 4. Chrome treatment, antirust smoothening should be done to reduce the friction. 5. It should have strong handles. 6. It should be ergonomic and rust proof. 7. Special teeth design which should be sharp at edges. 8. Should be supplied with essential accessories. 9. Power Supply 200VAC +/- 10 %, 50Hz fitted with Indian plug. 10. Should be ISO/BIS/CE approved model should be offered
(g)	**Plastic tanks for storing soft and dissected parts** ➢ Plastic tanks for storing soft and dissected parts
(h)	**Spirit lamps** Brass sheet die pressed, with woven wick in metal holder, screw Capacity 100 ml
(i)	**Tuning fork to test hearing 32-10000 cps (sets-100, 256, 512 Hz)** Turning fork to test hearing 32-10000 cps (sets:-100, 256, 512 Hz) each tuning fork with base
(j)	**Electrodes** Copper wire placed in holder made of nonconductive material (cork, Plastic ect) Shielded electrode two wire parallel to each other in layer of nonconductive material Polarizable or non-Polarizable electrode
(k)	**Knee hammer** Triangular Head, well grip handle, concealed brush with slide lock needle 20cm long
(l)	**Perimeter with charts (Lister's)** • Should have a calibrated arc, revolving chart holder. • Should be able to rotate in any direction and fix at any position with a tightening screw. The arc should be graduated from 0° to 90° with a movable test object. • At the back of the arc arrangement should be provided for fixing of chart which has concentric circles corresponding to the degrees of arc. • Adjustable chin rest. • The above mentioned should be fitted over a sturdy base with receptacle for keeping charts. • Accessories:

	• Different sized (2mm & 5mm), shaped (round & square) and coloured (five different) objects. • Should be supplied with 20 packets of charts (100 charts/packet). • Circular black disc to read the meridian in which the arc in shape of a semicircle with radius 330mm Adjustable chart rest and a detachable lever in a bar is fixed in front of metallic arc
(m)	**All glass distillation apparatus** Application: General laboratory purpose water distillation plant The complete outer and inner jacket, condenser tubes are made of Stainless steel. The apparatus capable of producing pyrogen free distilled water as per IP/BP standards. The instrument should have low water cut off device, water level indicator and control panel. Capacity : 5-6 ltrs/hr Chamber -: Stainless Steel 304 quality Air Heater: should have ISI Mark Heat up Time: 20- 30 min. from Ambient Mounting: Clamp for wall mounting Top Lid: Stainless Steel It should have BIS or CE or ISO certified
(n)	**Tooth Extractor Left & Right** ➢ Tooth Extractor Left & Right Tooth Extractor should be made of SS ➢ Fine finish & Good quality
(o)	**Dissection Set Complete** 1 Technical Specifications 1.1 Student Dissecting Kit 1.2 Should contain most widely used instruments of high quality stainless steel. 2 Dissection Kit contents: 2.1 · Cartilage knife 2" blade 2.2 · Scalpel with screw lock blade 2.3 · Narrow blade scalpel 1.5" blade 2.4 · Forceps 4.5" with guide pin, medium points 2.5 · Forceps 4.5" with guide pin curved, fine points 2.6 · Dissecting scissors, Iris 4.5" 2.7 · Probe and hook chrome 2.8 · Dissecting scissors with one point sharp & one point blunt 5.5" 2.9 · Teasing needle straight

	2.10 · Teasing needle bent 2.11 · Ruler 6" plastic 2.12 · Dissecting chain and hook chrome 2.13 · Dissecting blow pipe 6" 2.14 · Double fold vinyl case
(p)	**Hack Saw** ➢ 12" stainless steel Hacksaw Frame Tubular With Plastic Handle, with blades fine cutting, adjustable screws to temper the saws, efficient and comfortable handles.
(q)	**Measuring Tape (Steel Tape Roll)** ➢ Minimum 5 M Steel Tape Roll
(r)	**Rib Shear Left & Right** ➢ Complete set made up of good quality stainless steel
2.	**Group-2**
(a)	**Human tarso** Detachable Human Torso Anatomy Model Skeleton Visceral for Medical Students Study • Parts:15parts. torso, brain(2Parts), heart, esophagus trachea and aorta, lung (4 parts), skull cap, stomach, diaphragm, liver, pancreas and spleen, intestine. • Made of high-quality PVC, environment-friendly and safe. • Portable 3D mannequin: you can take the model apart, like a puzzle. • Applicable to schools, hospital, in physical health teaching, can be used as a teaching of physical health knowledge of the visual aids, so as to deepen the understanding of the structure of the human organ. • Suitable for anyone who interested in anatomy, nursing, physiology. Understanding the organs of the human body. Material Type: Silicon
(b)	**Obstetrics mannequins including Obstetric examination, conduct and management of vaginal delivery**. 1. Delivery manikin should be capable to provide training for normal delivery. It should have realistically modelled pelvis bone structure to make it possible to identify the important land marks in breech and shoulder presentations and able to teach management of malpresentations including breech and shoulder dystocia. 2. Should have manual mechanical birthing system to enable the user to control the rotation and speed of fetus delivery etc.

	3. The abdominal palpation mannequin should have an articulating fullterm fetus with palpable fontanelles, spine, shoulders, elbows, and knees with adaptors to fit with manual birthing system. 4. Should be versatile to change the position of the fetus during the process of birth including descend, flexion, extension, internal and external rotation, restitution. 5. It should have the newborn baby with realistic and articulated joints with fontanels and anatomical landmarks and soft head allowing for realistic attachment of vacuum for vaginal assisted delivery and creating a chignon effect. 6. Shall have adaptive birth canal to demonstrate dystocia and deal with its relief 7. Should have features to demonstrate cord prolapsed 8. Shall allow demonstration and practice of placenta previa 9. It should be supplied with cervix openings of 4, 6, and 8cm dilatation and effacement for skill training on vaginal examination. 10. Should have features simulating/represent conditions of the cervix and vagina prior to labor, during labor and at birth in a primgravida woman 11. The abdominal mannequin should be able accommodate the fetus in vertex, breech, or transverse positions. 12. The abdominal mannequin should have the facility to accommodate the fetus of different gestationalage, demonstrate vertex / Breech / transverse position delivery, and attach the perineum to demonstrate the episiotomy repair. 13. List of training scenarios which should be there: The bidder should be able to faciltate the 1 day faculty training and arrange the script of training scenarios • Normal delivery • Abnormal labour and other complicated deliveries • IUCD Insertion • Bleeding • Urine bladder catheterization • Uterine massage • Uterine compression • PPH and communication training Training with EUSIM Certified trainer will facilitate a decent understanding on the enhancing the skill set to the students and also to the trainer. 14. Material of the manikin should be latex-free 15. Digital examination and use of speculum should be possible in mannequin 16. Water based lubricant should be supplied for examination 17. Perineum and labia should be soft for realistic anatomical examination 18. List of accessories which should be there: It should consist of uterus training models with accompanying essential instruments for IUD insertion. a) Instrument bag 1: PPIUCD Forceps, Sponge holding forceps, Sim's Speculum b) Instrument bag 2: Sponge holding forceps, Vulsellum Forceps, Cusco's Speculum, Uterine sound, MVA Cannula, Artery Forceps 19. ISO certification should be there
3.	**Group-3**

Mannequins for demonstration of enema

1. plastic can I ltr capacity
2. Connecting tube at least 2 mts lengths
3. Anal inserting nozzle with length of 7.5 cm
4. Xylocaine jelly
5. Proper sized gloves
6. Availability of soap

Mannequins for demonstration of Intracardiac injection
IM Injection Trainer Set

1. Buttock Injection Trainer

Manikin should be lower torso a with right side of the model should be see-through

internal structure including bones, muscles, nerves, and veins. with realistic skin is

perfect for teaching proper injection techniques and how to avoid nerves and veins.

The gluteus medius, nerves, veins, ilium crista, and greater trochanter can be palpated to confirm the correct injection points.

Fluid injected n the proper place should be discharged through a drain tube into drain bag. A green light indicates correct injection technique and positioning - a buzzer and flashing red light warn students if they have gone too deep or if needle position is incorrect.

2. Deltoid Injection Trainer

The Manikin -Injection Trainer should be realistic in nature to train Intramuscular injection Training and should have option for aspiration of blood from vessels deep within the simulated tissue, to see simulated blood in the hub of the needle on aspiration.

Students should be able to use critical thinking skills they have learned through didactic training. The device should be fit on the area of the deltoid muscle as well as the vastus lateralis, rectus femoris, ventrogluteal, and dorsogluteal areas for realism. Pad measures 6-3/4 in. x 3-1/4 in. x 1-1/2 in. Five-year warranty.

3. Intramuscular Injection Trainer

The manikin should be Useful to simulate intradermal, intramuscular, and

subcutaneous injections

Removable epidermis layer on pad surface allows for the simulation of a "wheal" during

	intradermal injections Skin puncture resistance and the resistance throughout the injection closely mimic the feel of a real injection Drainage holes on pad bottom for use with fluid-filled syringes **Mannequins for demonstration of vaginal pessary** **Obstetrics mannequins including Obstetric examination, conduct and management of vaginal delivery.** 1. Delivery manikin should be capable to provide training for normal delivery. It should have realistically modelled pelvis bone structure to make it possible to identify the important land marks in breech and shoulder presentations and able to teach management of malpresentations including breech and shoulder dystocia. 2. Should have manual mechanical birthing system to enable the user to control the rotation and speed of fetus delivery etc. 3. The abdominal palpation mannequin should have an articulating fullterm fetus with palpable fontanelles, spine, shoulders, elbows, and knees with adaptors to fit with manual birthing system. 4. Should be versatile to change the position of the fetus during the process of birth including descend, flexion, extension, internal and external rotation, restitution. 5. It should have the newborn baby with realistic and articulated joints with fontanels and anatomical landmarks and soft head allowing for realistic attachment of vacuum for vaginal assisted delivery and creating a chignon effect. 6. Shall have adaptive birth canal to demonstrate dystocia and deal with its relief 7. Should have features to demonstrate cord prolapsed 8. Shall allow demonstration and practice of placenta previa 10. Should have features simulating/represent conditions of the cervix and vagina prior to labor, during labor and at birth in a prim gravida woman 11. The abdominal mannequin should be able accommodate the fetus in vertex, breech, or transverse positions. 12. The abdominal mannequin should have the facility to accommodate the fetus of different gestationalage, demonstrate vertex / Breech / transverse position delivery, and attach the perineum to demonstrate the episiotomy repair. 13. List of training scenarios which should be there: The bidder should be able to faciltate the 1 day faculty training and arrange the script of training scenarios • Normal delivery • Abnormal labour and other complicated deliveries • IUCD Insertion • Bleeding • Urine bladder catheterization • Uterine massage • Uterine compression • PPH and communication training Training with EUSIM Certified trainer will facilitate a decent understanding on the enhancing the skill set to the students and also to the trainer. 14. Material of the manikin should be latex-free 15. Digital examination and use of speculum should be possible in mannequin 16. Water based lubricant should be supplied for examination 17. Perineum and labia should be soft for realistic anatomical examination 18. List of accessories which should be there: It should consist of uterus training models with

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4.	**Densitometer with computer** FEATURES: Automatic density and dot gain (3-levels) Gray balance and trapping rotation Pantone and Spot Colour matching. Automatically switches modes, eliminating the need for the operator to memorize menus or button sequences. Unique "Traffic Light" system shows the operator if they are in or out of tolerance, and the correction needed High efficiency LED illumination eliminates SPECIFICATIONS: Light Source: RGB LED's, 45/0° geometry Aperture: 3mm standard, 2mm or 1mm optional Range: 0.00 - 2.50D Dot Area - 1% to 100% Measuring Speed: 0.5 seconds, Linearity ± 1% Target Recognition: Automatic Infrared Detection Graphical Display: 160x80 pixels, 4 gray levels Batteries: (2) AA alkaline >500,000 measurements Serial Interface: USB Polarization: Optional Dimensions: 6.9x3x1.9 inches (175x76x47mm)

	Computer i5 processor Certificates: Notified CE/BIS/FDA and ISO 13485
5	**Spectrophotometer** 1. Spectrometer has 3648 –element CCD array detector for wavelength range of 200-1100 nm giving a resolution ~1.7nm with a 25um entrance slit installed. L4 collection lens installed. 2. High power Deuterium Halogen light source suitable for Absorption/Transmission and Reflection measurements covering the range 215-2500 nm. 3. 400µm premium grade optical fiber 1 m length. 4. 200µm premium grade optical fiber 1 m length. 5. 4-way cuvette holder. 6. Pair of quartz cuvettes with lid. 7. Cross-platform Spectroscopy software compatible with above spectrometer. 8. Compatible latest computer. 9. Spare Deuterium Bulb for DH2000, 210-400 nm, 1000 hrs 10. Spare Halogen Bulb for all DH2000, 360-2500 nm, 900 hrs 11. Reflection measurement setup for powders/solid samples: 400um Reflection probe, Reflection probe holder, White reflection standard PTFE 12. Set of laser diodes 3-5mW with power supply 300,350, 405, 532, 635, 650, 740, 820nm one each for Fluorescence peak measurements
6.	**Auto strainer** 1 Description of Function 1.1 Automatic Slide Stainer is used for staining histological and cytological slides. 2. Operational requirements 2.1 Should be programmable for routine H & E & other special stains with facility for imuno-histochemical stains & memory of various staining procedures 3 Technical Specifications 3.1 Should hold about 80 slides per basket 3.2 Basket chemical capacity 750-1000ml 3.3 At least 2(two) water stations with 24 work stations, (Programmable) with timing in minutes & second & facility for single & double load. 3.4 Agitational facility 3.5 Can be connected with any make automatic cover-slipper 4 System Configuration Accessories, spares and consumables 4.1 System as specified- 4.2 Bio chemical baskets - 6 Nos. 4.3 Slides Hangers - 4 Nos 4.4 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 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90% 5.3 A fume hood completely covering the slide plates to prevent hazardous fumes from entering the lab area and an activated charcoal filter to minimize solvent vapors should be provided. 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 151 Specifications. (Input 160-260 V and output 220-240 v 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 FDA or CE approved or ISI marked product 7.2 Comprehensive warranty for 2 years and 5 years AMC after warranty 7.3 Should be compliant with IEC 61010-1: covering safety requirements for electrical equipment for measurement control and laboratory use. 7.4 Should comply with International Electromagnetic Compliance standards like IEC OR EMC Directives. 8 Documentation 8.1 Certificate of calibration and inspection from factory. 8.2 list of equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service/technical manual 8.3 User/technical/Maintenance manuals to be supplied 8.4 list of important spares 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.
7.	**<u>Biosafety Cabinet Type - 2A</u>** **Technical Specifications:** 1. Should have certification of NSF 49/EN1249 or NSF/ANSI 49 2. Approximately 4 Feet length and 2 feet depth 3. Support stand provided with leveling bases 4. 304 stainless steel interior with minimum 19 gauge 5. Epoxy-coated Galvanised Iron sheet with anti-microbial Powder Coated and thermosetting Powder Coated 6. Germicidal UV lamp with automatic cut off for UV tube when the door is open 7. UV light must be programmable with timer setting to allow for specific exposure times from 0 to 24 hours. 8. Front window must have 10" to 20"sash opening with door- fully closing option 9. Side walls UV absorbing colourless tempered glass 10. Top mounted motor

	11. Foot rest must be present to prevent fatigue of the person working 12. Raised arm rest to provide comfortable working posture and prevent grille blocking 13. Rounded joint less corners of the interior 14. Motor should be Brushless DC and must automatically adjust the airflow speed (balancing inflow and down flow) without the use of a damper to ensure continuous safe working conditions. 15. Stainless Steel removable drain collection system for easy cleaning 16. The microprocessor must display visual indicator on the front side for the following features: Hours of operation display, Inflow velocity display, Down flow velocity display, Night Set-Back mode display, UV on and receptacles on display, Operating airflow speed display 17. System should have ULPA filters for highest safety of the persons and environment 18. Circulation is of Class 100, Supply and exhaust through ULPA filters 19. ULPA filters must be removable from front of unit and serviceable 20. Scan-tested, zero-probe ULPA filters with 99.999% efficient particle size of H15 to H 17 and should meet EN1822 standards 21. Inflow velocity of 105 fpm (0.5 m/sec) & Down flow velocity of 55 fpm(0.3 m/sec) 22. Must be provided with alarms for both down flow and inflow velocity to alert any variation more than 10% to 20% from set values 23. System should have ULPA exhaust and final filtration 0.112 Microns with an efficacy of 99.9995% and anti —Microbial treated media 24. Should provide filter life indicator option 25. Noise levels less than 60 Db 26. Power Consumption in Normal mode : 200W 10% 27. Must contain two electrical socket 5 and 15 amps 28. Lighting > 1000 Lux 29. Auto purge holes located at the front and side walls to eliminate eddy currents and dead air pockets in the critical area behind the sash window 30. Suitable servo power stabilizer should be provided for continuous smooth functioning 31. Safe & secured placement and installation in the designated premises of Gimur medical College 32. Installation should include required electrical accessories 33. Equipment handing over to the HOD, Dept of Microbiology, GMC Guntur after obtaining 1Q, OQ, PQ 34. Warranty for 3 years and AMC for 5 years valid from day 1Q,0Q,PQ are signed by both parties 35. Calibration certificate with a validity period of at least 6 months must be provided 36. Demonstration and Induction training to the staff in functioning of equipment. 37. Should be IVD or FDA or CE Conformity 38. Technical service support to provide within 24 hours
8.	**Bottles for blood culture**
9.	**Culture Plates/ Petri Dishes** **Petridish plates (autoclavable) – PW008- 1 x 100 no** **Petridish plates size 100mm – PW060- 1 x 10 no** **Mc cartney bottles – GW162- 1 x 100 no**

10	Desiccators 1. Desiccators with Cover and Porcelain Plate, Plastic Knob 2. Complies with IS 6128 3. Robust Desiccator base and cover made of borosilicate glass 4. Simple design for drying under atmospheric pressure 5. Ground glass flanges 6. Plates are positioned on an internal ledge within the base 7. Generally used for drying of moist products and for storage of moisture-sensitive substances 8. Approx ID Ground flange 100mm to 250mm
11	**Digital Automatic camera > 5 megapixel**
12	**Digital SLR at least 20 megapixels with micro, macro, wide angle zooms lenses, Flash and other accessories**
13	**Dropping bottles**
14	**Fluorescent Microscope** **Technical Specifications:** 1. Objectives: With a par-focal distance of 60 millimetres and an objective thread size of 25 millimetres 2. Phase Contrast objectives- 4x, 10x, 20x & 40x and 100x with NA value of minimum 1.45 (without phase) oil immersion 3. Condenser: ELWD (extra long working distance). 4. Nose piece: Extra Large Working Distance, adjustable. 5. Eyepiece: 10X (F.O.V. 20-22mm) with rubber eye guard. The eyepiece tube interpupillary distance should be 50-75mm, with inclination of 45 degree from horizon. 6. Illuminator: High luminescent white LED illuminator. Lamp house for 50 W mercury lamps, UV Light shielding plate, UV-cut filter (detachable). 7. Mechanical stage with holders: attachable with different holders like, Terasaki holder (accepts 65mm petri dish); Slide glass holder (accepts 54mm petri dish); Hemacytometer holder etc. 8. Filters: Epifluorescence Attachment, with field diaphragm, Fluorescence filter block holder, (2 filter blocks mountable, 1 empty position), Barrier filter, Heat absorbing filter, Fluorescence Filters for DAPI, FITC & TRITC. Universal turret type swing-out condenser for bright field, dark field, phase contrast studies with N.A. 0.9 - 1.25 10. The optical system should be of color correction for infinity with antifungal coating.

	11. Sturdy stand of anti rust material with long life built-in power supply DiD illumination minimum 50000 hrs. life provides cool light good for live specimen 12. Photograhic attachment: Trinocular model (with light distribution, bino/photo: 100/0, 0/100) to accommodate image documentation, a photo port that accepts various photo micrographic systems, image can be viewed and stored in computer system 13. Digital Camera with not less than 7 Megapixel and with high Resolution 14. Computer requirement with PC workstation with Core is processor CPU, 19" & above LCD/TFT Monitor, 500 GB HDD, DVD Read/Write, 2GB RAM. Key board, Mouse. 15. Power Supply: should include 210-240 V / 50-60 Hz 16. Spares: Lamps 2 No. should be provided 17. Suitable UPS with minimum 1 hrs back up should be provided for constant and continuous voltage maintenance for smooth functioning 18. Sale & secured placement and installation in the designated premises of Guntur medical College 19. & secured placement and installation in the designated VRDL lab, at 2nd floor of regional laboratory, within the premises of Guntur medical College 20. Installation should include required electrical accessonies 21. Equipment handing over to The HOD, Dept of Microbiology, GMC Guntur after obtaining 1Q,0Q,PQ 22. Warranty for 3 years and AMC for 5 years valid from day 1Q,0Q,PQ are signed by both parties 23. Shock proof, friction proof, chemical proof, water proof, heat resistant flat firm weight bearing modular work surface for the equipment to avoid wear and tear along with sufficient work space to hold samples and other accessories 24. Calibration certificate with a validity period of atleast 6 months must be provided 25. Demonstration and Induction training to the staff in functioning of equipment. 26. For Validation and induction training, materials must be bear by the company itself 27. Should be IVD or FDA or CE Conformity 28. Technical service support to provide within 24 hours
15	**Flow cytometer** The flow cytometer should be equipped with lasers of following wavelengths and power outputs: a) 488m Solid State blue laser b) 633-642m Solid State red laser c) 405mm Solid state violet laser. 2. The flow cytometer should have capability of 10 fluorescent colors and 12 parameters. For each parameter the flow cytometer should be capable of measuring area, height and width. 3. The excitation and collection optics of all lasers should be fixed requiring no alignment to be done by operator 4. The flow cytometer should have high quality quartz flow cell. 5. The flow cytometer should be automated to start daily routine procedures, such as startup, shutdown, and routine cleaning cycles with the help of clinical software or better software which is evaluated with clinical samples. 6. The flow cytometer should be able to acquire at least 25,000 events per second or higher.

	The sample carryover must be 70.1%. 7. The system should have compensation capability between all fluorescence channels with online as well as post-acquisition manual and auto-compensation features. 8. The equipment should have digital signal processing with dynamic range of at least 18 bit acquisition or more. 9. The equipment should be operable at 220-230V and 50Hz 10. The Cytometer should have blo-hazard contalment system and proper waste collection and management system. 11. The flow cytometer should have automatic loader carousel with the capability of 28 or more 12 x 75 mm tubes and should automatically loads them in the machine system without operator intervention. 12. The company should provide appropriate starter kits. 13. Minimum two licensed/open software coples for data analysis should be supplied 14. The equipment quoted should be IVD approved. 15. State of art, compatible computer system with latest configuration along with DVD-RW devices, USB ports, 24" or higher Monitor and network ports. 16. The instrument should be able to analyse samples with a minimum volume of ?50 ul. 17. Should supply a high quality printer to take print out of results, reports etc 18. Should supply online UPS with maintenance free batteries, spike protection for minimum one hour backup with full load. 19. A suitable anti-vibration table (with lockable shelves and leg space) should be supplied along with the machine 20. Should supply reagents including necessary consumables, Quality control for common assays (if required), lysing solutions (red blood cells), sheath fluids/solutions, tubes and other necessary consumables for a minimum of 2000 assays. 2. Should have safety certificate from a competent authority CE issued by a notified body registered in European commission / FDA (US) / STQC CB certificate / STQC § certificate or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate / test report shall be produced along with the technical bid.
16	**Glass wares including Pasteur Pipettes Each**

SL.NO	GLASSWARE NAME	SPECIFICATIONS
1.	Beakers	1000 ml
2.	Beakers	500 ml
3.	Beakers	250 ml
4.	Beakers	100 ml
5.	Beakers	50 ml
6.	Conical flask	1000 ml
7.	Conical flask	500 ml
8.	Conical flask	250 ml
9.	Conical flask	100 ml
10.	Durham tubes	1-3 inches
11.	Funnel	100 mm
12.	Funnel	75 mm
13.	Funnel plastic	100 mm
14.	Measuring jar	1000 ml
15.	Measuring jar	500 ml
16.	Measuring jar	100 ml
17.	Pasteur pipettes	2 ml
18.	Petri plates –Autoclavable plastic	100mm
19.	Petri plates-glass	100mm
20.	Test tubes (MR-VP)	15x150(15ml)
21.	Test tubes (NA slant)	18x150 (27ml)
22.	Test tubes (Peptone water)	15x125(13ml)
23.	Test tubes (SDA)	25x150 (55ml)
24.	Test tubes (TSI)	12x100(7ml)
25.	Test tubes (Widal)	3x0.5 ml

NOTE: All glassware should be heat resistant.

	1. Made op of borosilicate glass 2. Facilitate controlled drop 3. Smooth, straight cut, fire pilished tip (short and long tip) 4. Ideal for clinical & industrial use 5. Disposable 6. Supplied in convenient packing 7. Plugged End, 145 mm to 230mm; 1000/cs 8. Capacity : 2mL 9. Outer Dimensions (mm): 7 10. Body Length (in): 4 11. Tip Length (in): 5 12. Overall Length (in): 9 13. Tip Opening Inner Dimensions (mm): 1.1
17	**Graduated cylinders for various capacities ranging from100 cc to1000 cc.(100, 250,500,750 and 1000 Each)**
18	**HPLC** **Technical specifications** 1. The HPLC system should be automatedand must be dedicated to Thalassaemia and Haemoglobinopathy testing and screening. 2. The system should be able to screen and quantitate haemoglobins Hb A2, Hb A and HbFand detect the most commonly occurring abnormal hemoglobins like Hb S, Hb D, Hb E, HbC, Hb Q- India, Hb D-Iran, HbLepore, HbSaurashtra and other rare abnormal hemoglobinsin both homozygous and in single and double heterozygous conditions. Supporting documentshould be supplied. 3. The system should have the provision of presumptive identification of HbBarts and Hb H and various alpha chain variants like Hb J Meerut, Constant Spring etc. 4. Customer satisfaction certificates from Government laboratories should be offered. 5. The HPLC system should have a dual piston pump so that each elution buffer has a different pump and the bitters vote 6. The method shouldn't take longer than 6.5 minutes to screen for hemoglobinopathies and thalassemia. 7. The kit size should not be of more than 500 tests so that it can be consumed well within the expiry date. 8. The system should have spinning of vacutainer before aspiration to avoid improper sampling 9. The system should have automatic barcode positioning and reading facility. The barcode should be able to anto agn to the 10. The system should have continuous or batch wise sample analysis with random access

	andsample bas sone seress, 11. The system should have the facility of primary tube sampling and direct dilution of the samples without mars) 12. Complete ready to use reagent kit must be provided with buffers in transparent tanks to renthe levels of buffers orke the run. Columns, primers, calibrators with diluent, CD to upload reagent information (swon as let numbes, engiry sase so that user don't do individual entry and avoid errors) and sample vials must be within the kit as a single ka 13. 13 For the purpose of cost computation per test and result reliability, all necessary regents should be from the same iot 12 The system should have an inbuilt system check facility which checks that all the 14. The system should have an inbuilt system check facility which checks that all the system parameters les, cartridee, butter. 15. There should be a system which monitors liquid volume by weight and an alarm is generated by softirare it the buffer 16. An automatic sampler module with space for ten sample racks should be included in the system. There are 10 sample spots on each barcoded sample rack. Throughout the run, the system should be capable of losing continuousty. 17. The system should have devoted computer and software, which enables the system for bidirectional interianing Moreover, the software should have customized reporting format, giving info on the subtype and quantity of hemoglon 18. The system must have a software for real time viewing of the analysis of the sample. 19. It should have an offline CD-ROM and an online chromatogram library which should be a searchable database with more than 400 chromatograms of fully classified abnormal hemoglobins and thalassemias along with their dimical and molecular classification. Also, a hard copy of most commonly occurring hemoglobin variants and thalassemia seen in india as a quick 20. The system should have an on-board QC Menu capable of storing the quality control date and printing the standard 21. The company should provide normal and abnormal third party controls for Hb A2, Hb F and Hib 5 and provide External Quality Assurance Scheme (EQAS) to help compare results with similar users worldwide. 22. The system should have dedicated computer, laser printer and software, which enables the system for bidirectional interfacing. Moreover, the software should glve Information on the subtype and quantity of hemoglobin detected. Also the software should enable result storage of minimum 10000 chromatograms (without any additional purchase of software). 23. The system should be capable of holding 10 racks or more at a time so that it can be used for at least 100 vials at a time. 24. The system should have In-kit external standards for instrument calibration ensuring accurate quantitation of results. The calibration should not be more than 1 point calibration. 25. The software should automatically keep a cartrige/column count and no manual monitoring should be required. 26. The system should be either US FDA/EU CE or ISO 13485 certified or equivalent Indian Standard Certified. 27. The waste tank should be sufficiently big (5 liters or more) so that it reduces user

	interference with the machine and help in smooth running of large volume of samples without interruption The system should have alarm for overflow of waste tank.. 28. The reagent container should have a capacity of more than 1.5 liters so that the user does not need to change buffers regularly. 29. The company preferably have feature of capillary collection kit for remote sample collection with sample stability at 2-8 C for 14 days. 30. The company must provide a support of factory trained engineers, application specialist and thalassemia expert for the technical and chromatogram interpretation related issues. 31. The instrument provider should also provide training to the scientists and scholars, staffs working, quality control, testing, evaluation and interpretation 32. 3 KVA UPS of appropriate rating for 20 minutes backup, 2-ton split AC and table for the holding the HPLC may be supplied along with the machine.
19	**Immuno fluorescence Microscope** Technical specification of INVERTED FLUORESCENCE MICROSCOPE Prescribed Specification 1 1. Infinity-corrected optical system with objectives with a 45 mm parfocal distance supporting fluorescence, brightfield, colorbrightfield, and phase contrast imaging mode 2. System must be a compact integrated unit including: microscope, digital cameras, computer, high power fluorescence lighting system for Neurobiology, Immuno-oncology, Live-cell imaging, 3D cell imaging (e.g., organoids, spheroids), Immunohistochemistry (IHC) applications 3. The instrument should have Illumination through five-position chamber for 4 fluorescence iluminators plus brightfield imaging; ght lluminators with integrated hard-coated fiter set and LED light source with >50,000-hour life; broad selection of standard and specialty LED illuminators. 4 Imaging methods by Single color, multicolor, time lapse, Z-stacking, movie capture 5. Condenser - 60 mm LWD condenser; 3- 4-position turret with phase annuli 6.System must include mechanical X/Y stage; travel range at least 120 mm x 80 mm with sub micron resolution 7. Automated focus mechanism with sub micron (0.2 um) resolution (single step accuracy) and mechanical focus wheel with single knob for coarse and fine focus 8.5 position objective turret with front mounted control and Plan Flourite 10x, 20x,40x & 100X objectives to be supplied along with instrument 9. Independent intensity controlled LED illuminators: 04 Nos (DAPI - 357/447 m, GFP - 470/510 nm, Texas Red - 585/624 nm & CY5 635/692) independent high output LED illuminators to be supplied along with instrument. The LED illuminators must have independent intensity control. 10. Fluorescence LED illuminators: Single, interchangeable, easily removable, installed and automatically recognized by the instrument software and adjust the configuration accordingly 11. CMOS Sesor: integrated high-sensitivity 3 MP or better monochrome CMOS sensor with 3.45 micrometer pixel resolution 12. The system must provide a 1-click RGB channel overlay and also able to sequentially acquire a phase contrast image and a fluorescence image with a single mouse click, then overlay them automatically

	13. The system should allow user to review, measure, and annotate captured images and count count cells in fluorescence mode post-acquisition 14. The system have option to upgrade to onstage Incubator for precise control of temperature, humidity, and gases for normoxic or hypoxic conditions allows a wide range of biological studies under physiological conditions. Vendor should supply on stage incubator along with the microscope. 15. The Onstage incubator should not have a separate software module or control units and should be controlled by the software and user-interface on the imaging system 16. The system should have a small foot print 17. Networking capability: connection through Windows/SMB network via an Ethernet cable connection and USB 3.0 WiFi dongle. 18. Output file formats: 16 bit monochrome TIFF or PNG, color TIFF, PNG JPG and BMP. 2 Manual Two set of manual and service manual (both hard and soft copy in English) should be suppled with the equipment. 3 Training The manufacturer / soppler of inverted Fluorescence MICROSCOPE should provide 1-3 daye onete training in both hardware and software to the laboratory personnel lo the Installation, operation and maintenance of the Instruments. The suppler or manufacturer should also provide three days apolleations training. 4 Pre-Installation Requirements Complete technical details of pre Installation requirements should ba furnished along with the technical bid. Birla Institute of Technology, Mesra will only provide the Installation room, alr-conditioning units and required electrical outlets. Vendors are expected to supply all other installation accessories, Infrastructures, facilities and services required for successful installation and smooth operation of the equipment. Vendors may conduct the site survey before installation at no additional cost. 5 Warranty of 1 year should be quoted. The suppler should provide comprehensive warranty for one year for all components without any additional cost to the purchaser form the date of satisfactory commissioning of equipment. Components Include all parts (accessories/ consumables / spares parts) of the equipment. All accessories/ consumable/ spare parts replaced shall be from OEM/ Suppler of same model or higher version. If within a period of three years after commission, any accessory / consumable/ spare part is proved to be defective then such product shall be replaced by the manufacturer / supplier. Such replacement shall be sole obligation of manufacturer / suppler, Including payment of charges for freight delivery, custom duty and transportation, if any
20	**Lyophilizer**

	1. The system should be Microprocessor Controlled Laboratory scale freeze dryer with suitable vacuum pump and facility for lyophilizing the products in vials and ampoules, sealing under vacuum. 2. The system should be sterilizable freeze-dryer as it will be used for bacterial samples. 3. The system should be upright stainless steel PTFE coated collector coil and should be able to hold 4.5 Liters of ice before defrosting. 4. The system should have digital display. The digital display should be clear, easy to read LCD/LED touch screen to display all the parameters and alarms. 5. Condenser temperature should be: -50oC to -110oC 6. The system should be compact bench-top model.	

7. The system should have Real time display of collector temperature, vacuum level etc
8. The system should have Operating mode both standby or run.
9. The system should have Data logger to store data and should be exported via USB or Ethernet.
10. The system should have Maintenance alert settings including vacuum pump oil change, refrigeration cleaning, total operating hours etc.
11. The system should have security lock with password to prevent changing of program and other system parameters
12. The system should have Moisture sensor to prevents refrigeration or vacuum start-up when moisture is detected in the drain line.
13. The system should have Vacuum control valve to maintain vacuum level set point.
14. The system should have both automatic and manual operating system.
15. The system should have automatic restart function in case of power failure
16. The system should have safety shuts off, if temperature exceeds to high temperature limit.
17. Vacuum pump should be High quality, corrosion resistant vacuum pump and Displacement capacity: 150 L/min.
18. The Inlet must be properly isolated to prevent oil and air contamination of the system in the event of power failure
19. The system should have quick-disconnect drain hose fitting with silicone tubing and clamp.
20. The system should have a 304 Stainless Steel Drying Chamber and Acrylic lid with neoprene gasket and valves and plastic molded knobs for 1/2" and 3/4" flask adaptors.
21. The system Should be supplied with a glassware flask of 150ml, 300ml, 600ml and 750ml 2 sets with suitable adaptors.
22. The system Should have many optional drying chambers for multiple user requirements and quoted optionally
23. The system must have upgradation option to connect to concentrator which has the option to concentrate samples from 2ml to 50ml samples.
24. System should operate at 230 V/ 50 Hz.
25. The system should be CE/ ISO certified.
26. The system should have the warranty for 3 years.
27. The system should be supplied with all accessories required to function.
28. The product should be as per CE/IEC guideline and certificate from authorized body should be submitted. No self-declaration will be accepted.
29. The service team should be in Bangalore. Contact details of Engineer should be submitted with this offer
30. The suitable accessories for the freezer dryer should be quoted with the main offer
31. The system should be installed by the trained Engineer and should be trained on Application, operation and maintenance.
32. The product should be as per CE/IEC guideline and certificate from authorized body should be submitted. No self-declaration will be accepted.
33. Compliance to each of the above points should be separately indicated and evidence presence for each of them (Product brochures should be highlighted wherever required).
34. The past performance/service support in NCBS/INSTEM/CCAMP should be satisfactory and the technical evaluation will be done accordingly

21	**Microfuge** Technical Specifications: 1. Equipment should be Compact, Easy, Quiet, low vibration, Tool -free operation 2. No refrigeration required 3. Should have Quick-spin feature 4. System should have 12-place 1.5ml to 2ml tube fixed angle rotor 5. System should have additional rotor for 4 x 8 strips with quick rotor exchange 6. System should have Imbalance and tilt safety cut-out 7. System should have safety interlock lid System designed to prevent opening while rotor is on 8. Back-lit, digital display that can be set for rpm or RCF 9. Should have Maximum Speed 12,000rpm to 14,000rp 10. Net Weight should be less than 2 kg 11. Timer: 1 sec to 30 min with 1 sec increments 12. Power supply: 110-240V 50-60 Hz 13. Safe & secured placement and installation in the designated premises of Guntur medical College 14. Installation should include required electrical accessories 15. Equipment handing over to The HOD, Dept of Microbiology, GMC Guntur after obtaining IQ,OQ,PQ 16. Warranty for 3 years 17. Calibration certificate with a validity period of at least 6 months must be provided 18. Demonstration and Induction training to the staff in functioning of equipment. 19. Should be IVD or FDA or CE Conformity 20. Technical service support to provide within 24 hours
22	**Reagent bottles**
23	**Real-time PCR machine (Calibrated for the fluoro phoredyes with 2 UPS 2KVA each, with 2 hours back-up)** Technical Specifications: 1. Automated table top model real-time PCR 2. Complete system include basic system, essential accessories, the state-of-art computer, work station, acquisition and analysis software, startup kit inclusive of calibration standards etc. 3. Interactive touch-screen interface allows to manipulate view to a particular graph or data point 4. Option to pause a real-time PCR run on demand Preoptimized protocol templates allow quick selection of default protocols for standard applications 6. Locked workflow feature allows for experimental consistency in tightly controlled environments 7. Should be open system to accommodate Taqman, SYBR green and all other fluorescent dye based chemistries 8. Should be open system to accommodate any kind of kits from any manufacturer 9. Should have peltier based 96 well block 10. Standard optical 96 well plates, 0.2 ml strips, 0.2ml tubes compatibility

	11. Minimum sample value requirement - 5ul 12. System should be capable of running 2 to 6 individual programming in the same run with different set of temperature 13. CCD camera with LED and at least five excitation and five emission filters 14. Multiplexing ability up-to minimum 6 dyes in a single run 15. Calibrated dyes at installation: FAM/SYBR Green, VIC/JOE, NED/TAMRA/Cy3, ROX/TexasRed®, and CyS, also should offer flexibility in dye selection. 16. Facility to calibrate new dye within the wavelength range without addition of new filters 17. Passive reference dye ROX or any other calibrated dye should be provided for normalization of reaction due to non-PCR related fluctuations such as pipetting variations 18. Option for melt curve analysis should be provided 19. Temperature range 4° C to 100° C 20. Temperature Accuracy: #0.25°C (35°C- 95°C) of set point/ display temperature measured at 3 minutes after clock start 21. Temperature Uniformity: #0.50°C, 30 seconds after clock start 22. Block ramp rate should be 6° C / Sec 23. Sensitivity: Detection of I copy of template 24. A computer system with color printer should be provide with the equipment 25. Streamlined software for improved usability and analysis response time 26. Software applications to provide: Comparative CI, Standard Curve, Relative Standard Curve, Allelic Discrimination/SNP Genotyping, Plus/Minus, dissociation / melt curve; multiplexing and complete End-point assays, Gene-Expression analysis, Pathogen quantitation etc. 27. System should run in Fast and Standard mode. 28. System should have on board memory of minimum 10GB 29. Application software like dedicated primer and probe design software as well as relative quantitation analysis software to analyse multiple 96-well-plates of data simultaneously must be included 30. Should be able to provide pre-validated and functionally tested Gene Expression Assays as well as SNP Genotyping Assays and the flexibility to design specific assays for new templates of interest based on requirement 31.220 V /50Hz 32. IVD or FDA or CE mark or equivalent 33. Continuous ambient temperature maintenance for equipment for smooth operation 34. Safe & secured placement and installation in the designated premises of Guntur medical College 35. Installation should include required electrical accessories 36. Equipment handing over to The HOD, Dept of Microbiology, GMC Guntur after obtaining 1Q, OQ, PQ 37. Shock proof, friction proof, chemical proof, water proof, heat resistant flat firm weight bearing modular work surface for the equipment to avoid wear and tear along with sufficient work space to hold samples and other accessories 38. Warranty for 3 years and AMC for 5 years valid from day IQ, OQ, PQ are signed by both parties. 39. Calibration certificate with a validity period of at least 6 months

	40. Demonstration and Induction training to the staff in functioning of equipment. Refresher training to staff as and when changes in versions, soft wear, methods, techniques, up gradation are made by manufacturer. Relevant certificates to be issued. 41. For Validation and induction training, materials must be bear by the company itself, Reagents for 100- 500 reactions should be provided with the instrument. 42. Suitable UPS with minimum 2hrs back up should be provided for constant and continuous voltage maintenance for smooth functioning 43. Technical service support to provide within 24 hours
24	**Ultra-centrifuge > 14000 RPM** 1. Should have temperature range: " - 4°C" to "+40°C" 2. Should have Speed of 14000 rpm or more 3. Should be a Table top Model 4. Should have fast temperature option for pre-cooling of the chamber 5. Should have acceleration time of around 15 sec 6. Should have braking time of 15 Sec and with soft brake function 7. Should have digital display for temperature, time and RPM/RCF and microprocessor controlled 8. Timer should be equipped with 0-99 Min and hold Mode. It should start when set speed is reached 9. Emergency lid opening should be at the front side of the centrifuge 10. Should be provided with Short spin option & lid lock option 11. Values can be change during centrifugation 12. Imbalance cutout 13. Automatic rotor recognition option with speed limitation for maximum safety 14. Drive system should be brushless direct current 15. Internal memory should contain 90 - 99 programmes, with programme recall facility 16. Should be provide with fixed angle rotor with capacity 24x1.5ml / 2ml tubes and should provide adaptors for 0.5ml, 0.2ml PCR Tubes 17. Should provide Swing out Rotor with capacity 250ml and adopters for 50ml, 15ml, 10 ml, 5ml falcon tubes 18. Should provide easily changeable swing out Rotor with accessories for microplate 19. Auto shut-off should engage after 6 to 8 hours of non-use to reduce the energy consumption and extend compressor life 20. Should have certification of FDA / IVD / CE 21. Power Supply: 210-240V 22. Noise levels should be less than 60Hz 23. Should have inbuilt condensation drain to prevent corrosion 24. Should have atleast 10 different acceleration and breaking ramps to protect sensitive samples 25. Shock proof, friction proof, chemical proof, water proof, heat resistant flat firm weight bearing modular work surface for the equipment to avoid wear and tear along with sufficient work space to hold samples and other accessories. 26. Safe & secured placement and installation in the designated premises of Guntur medical College 27. Installation should include required electrical accessories

	28. Equipment handing over to The HOD, Dept of Microbiology,GMC Guntur after obtaining 1Q, OQ, PQ. 29. Warranty for 3 years and AMC for 5 years valid from day IQ, OQ, PQ are signed by both parties. 30. Calibration certificate with a validity period of at least 6 months should be provided 31. Demonstration and Induction training to the staff in functioning of equipment 32. For Validation and induction training, materials must be bear by the company itself 33. Suitable UPS with minimum 1hrs back up should be provided for constant and continuous voltage maintenance for smooth functioning 34. Technical service support to provide within 24 hours.
25	**UV Transilluminator with photography** **Technical Specifications:** 1. Gel imaging system to should able to visualize Stained protein gels (coomassie, silver. UV light-excited fluorescent stains). 2. Gel imaging system to should able to visualize Stained nucleic acid gels (ethidium bromide and other UV light-excited fluorescent stains). 3. Should be provided with UV and visible light transillumination, motorized zoum lens; Transillumination and epi-illumination. 4. Technology to avoid UV tube background noise. 5. Camera-high speed USB technology for faster image captures and download and auto focus configuration. 6. Auto exposure setting for optimum image exposure time 7. Camera with native image resolution 2600(H) X 1950(W) with resolution- 5 megapixel or more. 8. Excitation source- Trans-UV 254, 365m; 9. Wide transillumination area 10. Provided with PC with printer and Software compatibility Windows 11. Software with multi user licensed analysis software for image enhancement image analysis including molecular weight calculation, band quantification, distance calculation or suitable display. 12. Filter wheel with F-590 emission filter should support for ethidium bromide, SYBR Gold, Gel orange, Gel Red, Gel Green, Lumitein, SYPRO Ruby, Qdot, SYBR sfe etc. 13. Compatible with different gel formats including precast gelse.g. E-Gel Agarose gels, Nu PAGE NoveBis- Tris Gels) and pour-it-yourself gels (agarose or polyacrylamide) 14. USB - 3.0 interface for faster image transfer 15. Equipment must have dark room facility with full slide out UV transilluminator on pull-out rails for comfortable work 16. UV safety shutoff with widely accessible door to handling gels while placing or moving gels on transilluminator table 17. Transilluminator should have Super bright technology so as to have publication quality gel image 18. Software should have Apps Studio, a complete library of applications to ensure reproducibility and ease of use. 19. Should have 3D Dynamic Scan feature to understand saturation and to rule out artefacts

<table>
<tr><td></td><td>20. Safe & secured placement and installation in the designated premises of Guntur medical College
21. Installation should include required electrical accessories
22. For validation and induction training, materials must be bear by the company itself.
23. Shock proof, friction proof, chemical proof, water proof, heat resistant flat firm modular work surface for the equipment to avoid wear and tear along with sufficient work space to hold samples and other accessories.
24. Equipment handing over to The HOD, Dept of Microbiology, GMC Guntur after obtaining IQ, OQ, PQ
25. Warranty for 3 years and AMC for 5 years valid from day IQ, OQ, PQ are signed by both parties.
26. Calibration certificate with a validity period of at least 6 months.
27. Demonstration and Induction training to the staff in functioning of equipment.
28. Refresher training to staff as and when changes in versions, software, techniques, up gradation are made by manufacturer. Relevant certificates to be issued.
29. Suitable UPS with minimum 1hr back up should be provided for constant and continuous voltage maintenance for smooth functioning
30. Should be IVD or FDA or CE Conformity.
31. Technical service support to provide within 24 hours</td></tr>
<tr><td>26</td><td>Virology Service Laboratory shall be a BSL-2 level laboratory, it includes the following areas
Virology Service Laboratory shall be a BSL-2 level laboratory, it includes the following areas
Sample receiving area
1.Handwashing & PPE donning/doffing zone
2.Designated area for Biosafety cabinet and sample handling
3.Designated pre-PCR (RNA extraction & template addition), PCR (for running the assay) and post PCR (for result interpretation & analysis) rooms
4.Space for handling biomedical waste

Tutorial Rooms. The munimum number of Tutorial rooms in the medical college for Pre and Para Clinical Departments for various intake of MBBS students annually to be shared hy all departments, shall be as indicated in the table below (each tutorial room shall provide at least 1.2 sq. M/student
<table>
<tr><td rowspan="2">Annual MBBS student intake</td><td colspan="2">No. of teaching room</td></tr>
<tr><td>25 seating capacity</td><td>50 seating capacity</td></tr>
<tr><td>100</td><td>2</td><td>1</td></tr>
<tr><td>150</td><td>4</td><td>4</td></tr>
<tr><td>200</td><td>7</td><td>7</td></tr>
<tr><td>250</td><td>9</td><td>9</td></tr>
</table>
b. Student Practical Laboratories. There shall be 8 student practical laboratories, one each for Histology. Clinical Physiology, Biochemistry. Histopathology & cytopathology.
Chnical pathology & Hematology, Microbiology. Clinical Pharmacology. and Computer Assisted Learning (CAL) in Pharmacology. The Clinical pathology/Hematology laboratory will be shared between Physiology and Pathology, and Forensic Medicine shall utilize the Histopathology & cytopathology laboratory for practical work.</td></tr>
</table>

	Each laboratory shall have capacity to accommodate at least 60 students, The laboratories of Histology, Biochemistry. Histopathology & cytopathology. Clinical pathology & hematology. and Microbiology shall have 60 work stations fitted with water laps, sinks. and electric points. The Biochemistry, Histopathology and Microbiology laboratories shall in addition have gas/electric burners at each student's work station. Each laboratory shall have additional rooms as required for technical staff, stores. equipment storage, etc. Each lab shall provide for at least 3.5 sq.m/per student. which shall be sufficient for workbenches. teaching area for 20 students, stores and room for technical stall. All the above-mentioned laboratories shall have audio-visual and internet facilities and be linked digitally to all other teaching areas i.e. Lecture theaters, tutorial rooms and museums. c. Museum: There shall be at least 3 museums in the college ie. I (one) for Anatomy. 1 (one) to be shared by Pathology and Forensic Medicine, and 1 (one) to be shared by Pharmacology, Microbiology and Community Medicine. In addition to the display area, each of these museums shall also have sufficient space to seat at least 50 students and shall have audio-visual and internet facilities and be linked digitally to the Lecture theaters. tutorial rooms and practical laboratories. The museums shall have adequate racks and shelves for storing and proper display of wet and dry specimens (where applicable) and models. There shall also be adequate facilities for displaying and viewing radiological and digitalized images
27	**OAE Impedance audiometer** Facilities and tests Tympanometry, Acoustic Reflex, Reflex Decay, Quick test: Check, screening and Decay, Acoustic Reflex Latency test (ARLT), Multifrequency Tympanometry, EFT (intactand perforated) Accessories Probe assembly with contra headphone and insert receiver Built-in fast thermal printer/Printout through Laser printer (Laser printer should beprovided). Data transfer to PC cable Data storage PC software Computer Desktop with laser printer Standard UPS Tympanometry 226 HZ for Admittance (Y) curve tympanometry 1000HZ for Admittance (Y) curve tympanometry INTENSITY 226 HZ : 85 dbSPL ADMITTANCE MEASUREMENTS Compliance range: 0.05 up to 7 ml AIR PRESSURE Control : automatic and manual Range : from +400 up to -600daPa adjustable in 50 daPa steps Pressure accuracy : 10 daPa or $\pm$10% Sweep rate : 50,100,200,300 daPa/sec and automatic

	Safety limitations : -800 up to +600 daPa EUSTACHIAN TUBE FUNCTION EFT test for use with both intact and perforated eardrums

List of balance items - IPHLs

Sl. No	Name of the Item	Required Qty
	Group-A (Lab items)	
1	Electrophoresis unit (horizontal)	8
2	Microcentrifuge machine (up to 16,000 rpm)	10
3	Alarm clock	4
4	Slide staining racks	4
5	Tissue Homogenizer (Desirable)	5
6	Micro-incinerator for inoculating loops and needles	4
7	Vortex mixer	11
8	Manual Cell Counter	4
9	Set of Micropipette 0.1- 2l	6
	Micropipette 1-10ul	
	Micropipette 5- 50ul	
	Micropipette 50-200l	
	Micropipette 200- 1000ul	
10	Multi-Channel pipette (octa pipette) 200-1000 ul	11
11	Digital Thermometer	8
12	Incubator (2 medium-sized)	4
13	Neubauer's counting chamber	3
14	Bunsen burner	12
15	Alcohol thermometer	1
16	VDRL rotator/Shaker	4
17	Electronic balance up to 3 decimal places	6
	Furniture	
18	Iron almirah	48
19	Perforated waiting chairs (3 seated)	67
20	Office tables with 2 side draws for doctor	29
21	Office table with 1 side draw	47
22	Computer and printer with UPS	22
23	Computer table	22
24	Iron racks big (5 shelves)	53
25	Refrigerator 360 Lts along with suitable stabilizer with stand	20
26	Pulse oximeter with NIBP	4

Specifications

1) Technical Specifications of Electrophoresis system (Horizontal)
1. The horizontal gel electrophoresis unit must include approx. 15X7cm, 15X10 cm gel trays.
2. Gel Trays should be UV transparent.
3. Should have a sample throughput of up to 60 samples or higher.
4. Run time should be 60-90 min at 90-150V.
5. Should include 1/1.5 mm thick 2 combs of 15 and/or 20 sample wells as standard.
6. Buffer volume should not be more than 650ml.
7. Should have option multichannel compatible combs for speed loading, and at least one comb should be supplied.
8. Two 30-well combs and two preparative combs with a minimum of four wells should be supplied. 9. Should have replaceable pure platinum wire corrosion-resistant electrodes.
10. Should include casting dams for tape-free and leak-proof casting of gels.
11. Should include loading guides for easy identification of wells.
12. Should be supplied with 100-gram agarose suitable for DNA gel electrophoresis.
13. All the items in horizontal gel electrophoresis should be from a single OEM/manufacturer for better compatibility and the best results.
14. Should be supplied with a power pack having 4 outputs and the following specifications.
15.i) The power pack should have a voltage setting of 10–300 V or better, fully adjustable in 1 V steps or better, Power 120W or better, and Current - 1–500 mA or better, fully adjustable in 1 mA steps or better.
ii) Powerpack should have Constant voltage, constant current, or constant power with automatic crossover, and should have European electrical safety compliance.
iii) For complete compatibility, the power pack must be from the same OEM/manufacturer as the electrophoresis systems.
iv) The timer should be up to 990 min or better. Should have Pause/resume run functions
v) Safety features include No lead, over-voltage, over temperature, over current, and ground leak detection and should be EN-61010, CE compliance.
Technical Specifications of Semidry blotting system
1. The system should be able to transfer the blot within 5-10 mins and capable of doing 4 mini gels or 2 midi gels simultaneously.
2. The system should be open for traditional blotting consumables
3. The system should have 1 or 2 cassettes to accommodate 4 mini gels or 2 midi gels.
4. Input power: 100–240 VAC, 276 VA, 50–60 Hz, 175 W max
5. Should be compatible with both nitrocellulose and PVDF transfer membranes
6. The system should have a cooling fan for cooling the transfer units or have better technology for cooling.

7. The system should have an inbuilt Power supply, USB port, Audible alarm alert, and User Interface: button keypad, monochrome display, or touch screen display.
8. User notifications should have features such as Power fails during the run, No-load detection, No cassette detection, End of run
9. The system should be capable of transferring> 250Kda and the system should be loaded with pre-program methods such a High MW, Low MW, and Mixed MW. Also, the system should be programmable as per the user methods and able to store them. A minimum of 25 user defined programs can be stored in the system.
10. The system should be provided with relevant consumables (transfer buffer, blotting membrane PVDF/NC, filter papers). One roll of PVDF membrane, 0.2 µm, 26 cm x 3.3 m, and one roll of Nitrocellulose Membrane, 0.45 µm, 30 cm x 3.5 m, should be supplied
11. The System should have electrical safety compliance EN6010-1.
Note: Should supply with suitable voltage stabilizer for entire system
Warranty: 3 years.

2) Technical Specifications of Microcentrifuge/Hematocrit
1. Benchtop centrifuge for quick assessment of hematocrit on microcapillary blood samples.
2. Rotation up to 16,000 rpm adjustable in increments of 100
3. Timer settable in minutes, maximum preset 99 minutes
4. Safety lid-lock feature and emergency lid release
5. Motor overheating protection and imbalance shut-off
6. Digital display shows rpm and time
7. Angle rotor, 24 positions, maximum approx. 16000 rcf
8. 2 hematocrit readers
9. Noise level less than 40 dB
10. Power requirement: 220V/50Hz
11. Should be CE/FDA/BIS approved product.
Supplied with each unit:
1. 10x pack of sealing compound for micro capillary tubes
2. 10 spare sets of fuses
3. Carbons: 5 pairs.
4. 10 pack of heparinised capillary tubes

3 Alarm Clock

4) Technical Specifications for Slide staining racks
1) The material should be made up of aluminium.
2) Slide Rack Size: l2"X 5"
3) Should have the storage capacity of 18 slides or more.
4)Manufacturer should have the ISO/ BIS standard certificates.

5) Specifications for Tissue Homogenizer and single Cell separator system
1. The instrument should be a stand-alone, benchtop system and able to prepare single-cell suspensions or thorough homogenates from virtually any tissues from human or mice.
2. The instrument should be semi-automated and can process up to eight samples, either individually or simultaneously, in a single run. A fully automated system will be preferred.
3. Each sample preparation should be processed in a closed and sterile environment to minimize cross-contamination.
4. The instrument should allow independent use of all the sample positions, and different programs can be selected and run individually.
5. The instrument should provide gentle but efficient tissue dissociation by mechanical and enzymatic dissociation for preparing single-cell suspensions with a high viability rate.
6. The system should be installed with optimized programs to easily dissociate tissues into single-cell suspensions, including the mouse or human tumor, mouse or rat neonatal heart, neural tissue, mouse spleen, lung, lamina propria, muscle, epidermis, or liver, mouse or human skin, etc.
7. Also, it should have pre-set programs for the homogenization of tissues for various downstream applications such as total RNA or mRNA isolation from fresh or frozen samples, protein extraction, determination of bacterial or viral load, mitochondria isolation, etc.
8. The instrument should be able to process the sample from 300µL to 10 mL and tissue from 20 mg to 4,000 mg in a single tube.
9. The instrument should have a touch screen display for operation.
10. The instrument should have the following:
11. Rotational Speed, 20-4,000 rpm; Rotational direction, clockwise or counter-clockwise; Rotational acceleration, 100r/s² max.; Torque,150 mNm; Overload restriction over the range of 200-4,000 rpm or better.
12. The instrument should have a USB port, RS232 port, and CAN port for data transfer and programming.
13. The instrument should work with 220V 50 Hertz.
14. Operating Temperature: 5oC to 4oC.
15. System should be able to work with biohazardous samples and should have safety shield.

6) Technical Specifications for Micro-incinerator for inoculating loops and needles
Item Name & Description
Electric micro-incinerator for loops:
Description of function and use: The micro-incinerator allows sterilization of metal inoculating loops without a flame and is suited for work in a BSC.
Main specifications :
- Heating element of ceramic surrounded by isolating cover.

- Quick infrared heating to temperatures ≥800 ºC for fast sterilization.
- Stand with suction-cup feet (or equivalent) for stable, safe operation.
- Possibility to fix the incinerator to a stand at different angles.
- Electricity requirements: Supply voltage: 230 ± 10 V, AC, 50/60 Hz. Voltage and plugs to be adapted to meet the country requirements. The line cord / Power cord supplied with the equipment shall be of acceptable durability, length, and current carrying capacity complying with Indian Standards.
- Power consumption: 2000 W.
- Protection class (in accordance with EN 60529).
- Designed not to interfere with circuit radio (in accordance with EN 55014).
Documentation :
Manufacturer's certificate :
- The manufacturer must have a management system ISO 9001.
- Certificates to be provided for each item supplied.
- Quality and safety standards met by the product must be listed.
Accessories :
Attached loop holder.
Warranty: Three years.

7) Technical Specifications for Vortex Mixture
1) Speed: 1000 rpm in continuous mode
2) Orbit: 4.2mm
3) Action type: Touch and continuous
4) Included: 1 rubber cup & plastic adapter
5) Max. Load: 1 kg
6) Power Supply 220 / 230 Volts 50 Hz
GENERAL SPECIFICATIONS
1. Power Supply: The equipment offered should be suitable for Indian electrical ratings as follows: Power supply: 200-230V, 50 Hz (Single Phase) or 400-440 V, 50 Hz (3 Phase)
2. The unit should be complete with all accessories and interconnections required for machine operation.
3. Instrument should have quality certificate as mentioned in the receptive technical specifications.
4. The supplier shall install, calibrate and validate the equipment at the location specified in the purchase order / Notification of award at the suppliers cost. 5. The supplier shall provide brand new machines only.
6. All electrical parts and control panel shall be conforming to and shall be done asper relevant BIS and any other standard stipulated by Electrical Inspectorate.
7. All the bought out items should be of standard and reputed make.

8. The suppliers should submit 3 copies of the following documents, relevant to their scope of supply, along with delivery & commissioning of the Unit :
a) Relevant Test Certificates, Operation & Maintenance Manual, Installation Manual, Troubleshooting Manuals, Guarantee Certificate
b) Any other related documents 8 Should be provided with Automatic restart at present speed in case of power failure.
9 Should be fixed with Heavy duty motor and should be ideal for Serological and Syphilis tests.
10 Manufacturer Warranty: Minimum 3 year.
11 The bidder should attach to their bid detailed specifications, catalogues and other details of all the equipment quoted by them.
12. The supplier should submit necessary test certificates of the equipment.
13. Comprehensive Warranty: 3 year comprehensive on-site warranty shall be provided free of cost with the equipment.
14. After sales service center should be available at the AP on24(hrs) X 7 (days) X 365 (days) basis. Complaints should be attended properly, maximum within 12 hrs.
15The service should be provided directly by Tenderer / Indian Agent. The spares for the equipment shall be available for at least 10 years from the date of supply.

8) Technical Specifications of Manual Cell Counter
Blood cell counter is used for blood cell counting and simple computations, including percentage. These blood cell counters are largely used in medical center. In order to meet flawless quality, these are manufactured from high quality raw materials.
1) Table top model Blood that can be operated with hand manually.
2) Having 5/8 keys and1totalizer unit for use with a microscope to count the Basophil, Monocytes,Eosinophil, Myelofibrosis, Juven, Stab Cell,Segmental Neutrophils,Lymphocytes for other mis cell an eous cells.
3) Each key should record upto 999 with the exception Of the total i.e., run it which records the total number of strokes made on all the other keys.
4) At totals of 100, 200, 300 and so on the totalizer unitringsabell.
5) The keys positioned low which allows the wrist to reston the table and registers are located above the corresponding key for continuous visibility.
6) A reset knob at either end of the counter to turn all the keys to zero.
7) Blood Cell Counter with pushbutton
8) Differential Cell Counter must be rust proof, water proof.
9) Should supplied with protective case.
10) The manufacturer should have the ISO/ CE /BIS certificates

9) Technical Specifications for Micropipettes			
1) Micro pipettes are used to measure and deliver accurate volumes of liquid in any analytical measurement. These devices measure small volume, starting at 1microliter, and a re used in various laboratories, including food analytical laboratories			
2) Liquid handling equipment, Auto clavable with high precision, robust and reliable			
3) Material of construction should have Corrosion resistant piston and sealing material to allow smoot hand uniform pipetting			
4) Pipettetip cone should be universal type suitable for any make of microtips.			
5) Pipette tip cone should be removable for easy cleaning, maintenance and autoclaving.			
6) Should have an Effort lesssingle hand operation of volume setting, volume lock,pipetting and tip ejection,all operations with the same hand Should have 4-position display with an integrated lens for better display.			
7) Display always visible and facing the user.			
8) Completely autoclavable at121ºC,20min without disassembly			
9) Volume Range and Quantity specified.			
Range	Quantity	Maximum permissible Systemic error (at 100% volume)	Maximum permissible Random error (at100%volume)
0.5-10µL	2	±1%	±0.04%
10-100µL	2	±0.8%	±0.2%
100-1000µL	2	±0.6%	±0.2%
2-20µL	2	±1%	±0.3%
20-200µL	2	±0.6%	±0.2%
5-50µL	2	±0.8%	±0.35%
10-500µL	2	±0.6%	±0.2%

10) Each pipette must have a individual identification number engraved and also have an individual labelling area.
11) Each pipette should be accompanied with a manual and have pictorial representation of all operations, limitations and functions
12) 3 years warranty
13) Should provide service and calibration twice in year and issue the calibration certificate during the warranty period with free of cost.

S.No: 10) Technical Specifications of Multi-channel Micropipette
1) Micro pipettes are used to measure and deliver accurate volumes of liquid in any analytical measurement. These devices measure small volume, starting at 1microliter,and are used in various laboratories,including food analytical laboratories
2) Liquid handling equipment,Autoclavable with high precision,robust and reliable
3) Should have an volume increment of 0.02µl
4)The material should be Corrosion resistant piston and sealing material to allow smoot hand uniform pipetting
5) Pipette tip cone should be universal type suitable for any make of micro tips.
6) Pipette tip cones hould be removable for easy cleaning,maintenance and autoclaving.
7) Should have an Effort lesssingle hand operation of volume setting,volume lock,pipetting and tipe jection,all operations with the same hand
8) Should have Digital Volume Indicator
9) Completely auto cleavable at121^{o}C,20min without disassembly
10) Type of Micro pipette Should have Variable Multichannel
11) Should have CE, ISO9001:2015
12) Each pipette should be accompanied with a manual and have pictorial representation of all operations, limitations and functions
13) Should provide service and calibration twice in an year / whenever required with free of cost during the warranty period
14) 3 years warranty.

11)Technical specifications of Digital thermometer with -50c to +150c measurement range at interval of 0.1c
1. Description of function: for measuring temperatures and displaying it with LCD/LED
2. Operational requirements: Portable, battery-operated system is required.
3. Technical Specifications:
(a) Temperature measurement range: -40°C to +210°C.
(b) LCD readout
(c) Temperature measurement accuracy: ±0.1°C

4. System configuration Accessories, spares and consumables:
(a)system as specified
(b)Temperature probe (quoted prices for both surface and internal probes)
5. Battery operated

8. Incubator

Clinical Purpose: Dry Incubators are designed to incubate blood samples, Micro plates etc.
Technical Characteristics (specific to this type of device): 1) Body: this unit has double walled chamber, with PUF insulation 2) Interior is made of Stainless Steel (minimum grade 304) and Exterior is either made of Mild Steel finished in power coated steel or Stainless Steel 3) The unit has full-length inner glass door and outside metal door with magnetic gasket and lock 4) This unit is provided with Mesh type trays 5) Them. Controller: Digital type 6) Temp. range: Incubations are generally performed between ambient +5 deg and 70 deg 7) Accuracy: 1deg C in the given range 8) LED display 9) Capacity: 120L with 2 compartments having light in each compartment with UV light. Inner Chamber: SS for easy cleaning and decontamination. 10) Should have round corner edges for easy cleaning of any spillage around the corners
Settings: Manual
User's Interface: Manual
Software and/or standard of communication (where ever required): Software based control takes place through a PC with a facility for data printout (Accepted (Microprocessor/ Microcontroller/Microcomputer controlled system.)
Power requirements: Input voltage 220-240V, 50Hz
Accessories & spare parts: Complete with comprehensive set of spare parts. The make, rating, model , description specifications price quantity of each item shall be furnished separately
Additional requirements: All equipment should specify Design qualifications, Installation qualifications, Operational qualifications and Performance qualification, validation and calibration reports should have traceability towards applicable national/International standards. Performance, efficiency. Other factors such as distortion etc. as applicable also furnished. Complete constriction. Details in respect of material specification. Thickness, finish etc. finish etc. are to be furnished.

User's care, Cleaning Disinfection & Sterility issuers: Specified in the manual
Product Certificate: CE Class II A or US FDA certified
Quality certificate: ISO certified
Electrical Safety: Equipment meets electrical safety specifications such as that of IEC (class I)
Training of staff (medical paramedical, technicians) Optional (Depending upon scope of work order): Training of users in operation and basic maintenance shall be provided
Warranty: 3 years
Maintenance Tasks: 4 years CMC
Service contact clause, including price: Downtime: 48 hours or after penalty clause will be active. Local clinical staff/authorized officer on behalf of purchaser to affirm completion of installation
Service contact clause, including price Operating manuals, services manuals, other manuals: Necessary catalogues, technical write up in English shall be attached with the offer both in hard and soft copies
Other accompanying documents: List to be provided of important spares and accessories, with their part numbers and cost. Certificate of calibration and inspection to be provided
Service support Contact details (Hierchy Wise; Including a toll free/and line number): Should be available
Recommendations or warnings: Any recommendations for best use and supplementary warning for safety should be declared

13) Technical Specifications for Neubauer's Counting Chamber / Hemocytometer (25 pieces)
1) The quoted brand type should be a registered brand
2) Each counting grid should be 9sq. mm. divided into 9 large squares, each of 1 square mm.Of these 9 squares, the 4 large corner squares divided by single lines into 16 squares each of which has a side of 1/4 mm and area of 1/16 sq.mm (1/4 mm × 1/4 mm)
3) Each of the 25 medium sized square (side = 1/5 mm), should be further divided into 16 small squares by single lines.
4) thick glass slide with H - shaped Trench enclosing two floor pieces. Central platform (Floor pieces) should be coated.central large square should be divided by triple lines into 25 medium sized squares each of a side of 1/5 mm.
5) WBC Pipette should have markings of 0.5, 01 and 11 RBC Pipette should have markings of 0.5, 01 and 101 Should have padded wooden box.

6) Accessories: Number of cover slips supplied with Neubauer Chamber
7) Space between the underside of the coverslip and the surface of the platform should be 0.100 mm in depth. EU CE/EU 5743, ISO 9001& ISO 13485,
8) Warranty as per catalogue.
14) Technical Specifications of Electric bunsen burner
1) Supplied with body of base made of M.S Powder coated
2) Top body made of S.S with energy regulator to control temperature.
3) Max. temperature of 800 °C
4) Suitable for laboratories in which no gas and naked flames are allowed to be used.
5) Ideal for heating test tubes, crucibles, small bottles and beakers
6) The ceramic heating element to be located in the upper part of the stainless steel cylinder
7) indicator lights for "Power On" and "Output regulator operation

15. Alcohol Thermometer

16) Technical Specifications for VDRL Shaker/Plate Rotator
1. Tender is invited from reputed original manufacture ortheir authorized agents/ dealers only.
2. Information regarding installation in India andsatisfactory service and maintenance must be forwardedwith all the details for verification.
3. The company must ensure proper demonstration andtraining to the hospital staff / technicians.
4. Service and maintenance must be provided on the site ofinstallation.
Technical:
1. For rotating slides for VDRL tests
2. Large plate form size: ≥ 300X300mm spring holder whichcan accommodate concave slides etc.
3. Shaking speed 180 rpm continuously adjustable withregulation
4. Amplitude 10 mm.
5. Digital timer can be set from 0 to 30 minutes for control ofshaking duration with 1 minute interval.
6. Micro controller based programme.
7. Brush less motor.
8. Interchangeable platform.
9. LED display.
10. Power Supply: 220 - 240 volts, 50 cycles, single phasewith complete chord and plug
11) Warranty 3 years.

17. Electronic balance up to 3 decimal places

18. **Aimirah**
Make & Model: FINEX
Steel Almirah as per following technical specification: Overall size: 915 (W) x 485 (D) x 1980 (H) mm including leg height of ~120 mm, full length of PVC shoes with screw fitting.
Materials: The CRCA steel sheet used for the body should be 0.9 mm thick as per IS-513 19
Construction: It should have multi bend construction with interlocking design and full length over lapping doors and sides. It should have three way bolting mechanism. The two doors should have hinge mounted on frame
Doors: The doors have one handle and lever locking mechanism with 6-Six lever Mazak Zinc Plated lock. CRCA DOOR sheet thickness 1mm and self-thickness 1.2mm
Powder coating: All steel components should undergo eight tank anti rust treatment and oven Baked epoxy polyester powder coating with 50-60-micron dry film thickness. It should sustain Salt Spray test to withstand more than 1000 hours as per IS-101, Pencil scratch hardness more than 2H, Adhesion as per DIN 53152 Standards.
Configuration: It should have 4 adjustable shelves made of 0.9 mm thick CRCA steel sheet with stiffener. Steel sheet shall be oven baked epoxy polyester powder coated with 40-50 dry film thickness.
Color: Silver Grey powder coated or Olive green or prince grey.
The manufacturer should compliant with ISO 9001, 14001 & OHSAS 18001

Warranty 1 Year

19. **Chairs for patient waiting area**
Make & Model: FINEX
It should have three seats with 2 arms at end.

The cross beam should be made up of black powder coated rectangular M. S. ERW tube having good strength.
Leg & Armrest should be chrome plated & made up of cold rolled steel.
Seat Back Shell should be powder-coated perforated shell made from cold rolled M. S. sheet. The Side Bar should be made up of chrome plated solid steel. The shell should be assembled on the Cross Beam with help of Bolts. Sufficient no. of bolts should be used to fasten shell on cross beam.
The width (W), height (H), seat height (SH) & depth (D) should be within 176 to 184 cm, 76 to 80 cm, 39 to 42 cm & 61 to 64 cm respectively as shown in the diagram:

The manufacturer should compliant with ISO 9001, 14001 & OHSAS 18001
Warranty 1 Year

20. **Doctors Table**
Make & Model: VDI & 0009(Own Make &Model)
1. Manufacturer should be ISO 9001 certificate
2. Manufacturer should have ISO 14001 certification for Environment friendly features.
3. Manufacturer should have OIISAS 18001 certification for occupational health safety management
4. Product must be CEBIS/BIFMA certified.
5. All stainless-steel material used in the medical furniture items must be made up SS 304 grade and should be supported by stainless steel grade certificate from Govt. approved testing laboratory duly mentioned about chemical composition. Copy of previous test report should be furnished in technical bidas well as during supply.
6. Manufacture should produce test certificate from Govt. approved laboratoryfor test procedure like impact test, bend test, salt spray chamber test, epoxypowder coating & phosphate coating for quoted item in technical bid as well as during delivery. (As applicable)
7. Should be an ISI Mark and Metal Quality Testing from Govt. Engineering Colleges/Polytechnic/ Reputed Institute.
8. DIMENSIONS: 1450 W x 680 D x 750 H (In millimetres)
9. MATERIAL:
10. a.PLB/PLT - Top 25 mm thickness.
11. All PLB and PLT (Prelaminated twin) is of following grade.
12. Grade II Type II– Designation - PLB-22 (As per IS: 12823 - 1990)
13. Each PLBPLT may contain following material layers:
14. Particle board, top with 2mm thick hot pressed PVC beading with keyboard Moukded type.
16. c. Under structure: This table should be Square CR tube 30 x 30 under structure with Prime Quality C.R steel square tube 1.22mm Thickness.
17. d. Storage: 3 Draw & 2 Draw Metal is provided for storage. One side 2 Draw and other side 3 Draw Metal shall be provided.
18. Drawer: • BoxX-Box-File : dimensions 390 W X 430 H X 560 D mm, Construction & Material: Weldcd Assembled, CRCA as per IS-513.- back , Sides, Top & Bottom, Box 0.6 Think. Drawer Tray & Front- 0.8 mm. CRCA as per IS-5 13, Drawer slides used must be of Heavy Duty Telescopic channels
19. All steel metal components are manufactured from finest quality steel, which conforms as per IS-513 Grade D, DD
20. All Steel tubes used for desk under structures are as per IS-3601 – 1984, IS-7138- 1973, IS-4923-198S.

21. Shoes - These shall be manufactured from hard rubber or PVC and shall be uniform in texture and chemically inactive to the action of mild acids. The nominal height of the shoes, shall be 35mm.
Warranty 1 year

21**. Office Table**
Make & Model: VDI & 0045
1. Manufacturer should be ISO 9001 certificate
2. Manufacturer should have ISO 14001 certification for Environment friendly features.
3. Manufacturer should have OIISAS 18001 certification for occupational health safety management
4. Product must be CEBIS/BIFMA certified.
5. All stainless-steel material used in the medical furniture items must be made up SS 304 grade and should be supported by stainless steel grade certificate from Govt. approved testing laboratory duly mentioned about chemical composition. Copy of previous test report should be furnished in technical bidas well as during supply.
6. Manufacture should produce test certificate from Govt. approved laboratory for test procedure like impact test, bend test, salt spray chamber test, epoxy powder coating & phosphate coating for quoted item in technical bid as well as during delivery. (As applicable)
7. Should be an ISI Mark and Metal Quality Testing from Govt. Engineering Colleges/Polytechnic/ Reputed Institute.
8. Dimensions: 1200mm W X 600mmDX 750Hmm
9. Material: PLB/PLT - Top 25 mm thickness.
10. All PLB and PLT (Prelaminated twin) is of following grade.
11) Grade I Type I| - Designation - PLB-22 (As per IS: 12823 –1990)
12) Each PLB/PLT may contain following material layers:
13) Particle board, top with 2mm thick hot pressed PVC beading with keyboard Moulded type.
14) a) Under structure: This table should be Square CR tube 30 x 30 under structure with Prime Quality C.R steel square tube 1.22mm Thickness.
15) Storage:3 Draw is provided for storage. With Right Side with Metal shall be provided.
16) Body for Storage Units: Body and draws for storage unit dimensions 390 W X 430HX 560 D mm shall be made from CR Steel sheet not less than 0.8 mm thick with heavy duty Telescopic Channels. This shall be bent to box shape from one piece and tack welded at final overlapped comer or assembled with a maximum of two pieces properly welded
17) All steel metal components are manufactured from finest quality steel, which conforms as per IS-513 Grade D, DD

18) All steel tubes used for desk under structures are as per IS-3601-1984, IS-7138-1973, IS-4923-1985.
19) Shoes – These shall be manufactured from hard rubber or PVC and shall be uniform in texture and chemically inactive to the action of mild acids. The nominal height of the shoes, shall be 35mm
20. Warranty 3 years

22.A**. Desktop (i3) with UPS**
Make & Model: HP & HP 200 G4 22 All-in-One PC
Processor: 10th Generation - Intel Core i3 processor or Higher
chipset: Compatible Chipset
Motherboard: OEM Motherboard
RAM: Min. 8GB RAM
Hard drive: Min. 1TB SATA HDD
Audio: Integrated audio
Webcam: 720p Integrated Integrated Web Cam
NIC: Integrated 10/100/1000 Mbps NIC or Higher
Display Monitor: 21.5" or above TFT LED Monitor without touch
Form factor: All-In-One
Keyboard: USB Minimum 104 Kess Keyboard <<Same make as PC >>
Mouse: USB 2 button Oprical Scroll mouse << Same make as PC>> with Mouse pad
Ports: Min 6 USB ports (min USB 3.0 - 2 nos), Video port and HDMI / DVI Port / DP **In case AIO is offered with wireless mouse, 4 USB Ports are acceptable.**
Power supply: As per manufacturer Standard
Certifications: For OEM : ISO 9001 : 2015, ISO 14001:2015 or Latest
For PC : MS Windows & Linux Certified << Certifications to be enclosed>><<EPEAT Registered>><<FCC>><<ROHS>>
Operating System: Pre-Loaded MS Windows 10 Professional 64 bit with product key **License**
Accessories: With required connecting cables and driver media should be supplied
Warranty: 3 Years Onsite comprehensive warranty on hardware & OS.
AMC Percentage: AMC Parcentage for 1st year & 2nd year beyond warranty period to be mentioned in the technical compliance sheet
1KVA Line interactive UPS with 215VAH battery
Capacity: 1KVA
Technology: MOSFET PWM Technology
Input Voltage Raneg: wide range form 160V to 270VAC
Frequency Range: 45 to 55 Hz

Phase: Single Phase with Ground
Power Factor: Active Power factor correction >0.99
Output
Voltage: 23OVAC
Voltage Regulation: +/- 1%
Capacity: 1KVA
Frequency: 50Hz + /- 1%
OutPut Wave Form: Stimulated Sine wave
Crest Factor: 03:01
Efflciency AC- AC: High efficiency >85%
Power factor: 0.8
Overload capacity: 125% 30 seconds
Battery Capacity: 216VAH batteries Batteries or Heigher
Battery Type: Battery type : SMF(Sealed Maintenance Free -Exide/Amar Raja-Qua nta/Panason ic Make) Propsed Supply of Batteries should be of latest batch not older by 3 monthsas on date of supply
Rack: Suitable powder coated Battery rack should be provided
charger: Built in Solid float - cum - boost charger with Automatic boost trickle charge modes with current limiting features
Line to battery mode Transfer Time: 0 ms
Cold start: should be available
Display & User Friendly front Panel: LED Display of informative Indicators along with mimic display of all im portant para meters
Idications: Mains ON,Invertor ON/OFF/Faulty, Battery level,Static Bypass ON, Load Level
Audble Alaram: Mains Failure Alaram, Low Battery Alaram and Overload
Protection: Advanced ElctronicProtection for device safety backed with MCBS/MCCBs/fast Acting fuses,High speed pulse blanking,Electronic over voltage,/Under Volatage
Cold Restart: Yes
standard Interface: RS 232 interface for Software,WITH UPsilon 2000/view power/Monitoring software
Cabling And Connectors: Vendor should supply with cablesto complete installation of ups system and provide atleast 2 spike suppressor with 3 or 4 nos of 5 AMPS to connect the sockets from Output
Certifications: BIS,ISO 9001-2015,1SO14001-2015, for OEM
Certifications: Proposed model of UPS should be ETDC/SAMEER/NTH certified
Certifications: Relavent and valid certifcations to be submitted
Warranty: 2years comprehensive warranty on both Ups & batteries

AMC Percentage: AMC percentage for 1st year & 2nd year beyond warranty Period to be mentioned in the technical compliance sheet(AMC including batteries)
22 **B. Printers**
Make & Model: HP & M233SDW
Features: Print, Copy, Scan, Duplex & Network Facility
Print Speed: Up to 25 PPM speed or Higher
Resolution: Up to 600 X 600 dpi
RAM: Min 64 MB or higher
Media Size: A4, LTR, Legal
Duty cycle(A4) monthly: 8000 pages or above
Cost per page (Genuine Cartridge Yield / MEP): <<Specify & Attach Evidence>>
Interfaces: USB 2.0 or higher and Ethernet Port
Duplex Printing: Auto Duplex
ADF(Automatic Document Feeder): 30 Sheets or More
OS Support: Windows and Mac
Cartridge: Should be supplied with integrated or separate toner & drum along with initial drum and toner for the offered model as per OEM standard
Warranty: 1 Year Onsite Comprehensive Warranty
AMC Percentage: AMC Percentage for 1st year & 2nd year beyond warranty period to be mentioned in the technical compliance sheet.

23**. Computer table**
Make & Model: Sony
Overall Size(W x D x H):(+/-1)mm One Cub Board CPU Tray with Pull Key Board With L Pad Length: 1200, Width 600,Height:750 One Draw One Cub Board CPU Tray with Pull Key Board With L Pad.

24**. Iron Racks**
Make & Model: Vardhini
Specifications of the steel iron racks:
Steel Slotted angular racks, open type with 5 Shelf and 4 Compartment of size 1200mm x 900mm x 450mm, CR Sheet shelfs 1.2 mm thickness with angle of 2 mm thickness and size: 40 mm x 60 mm, with 8 comer brackets of 2 mm thickness.

Warranty 3 Years

25. Technical Specifications of Refrigerator 360 ltrs

- 360 liters, Temperature 1-8° C.
- Refrigerator Fresh Food Capacity: 273Ltrs.
- Freezer Capacity: 87 ltrs.
- Semi-automatic/Automatic Defrosting of Freezer compartment preferred.
- Double door.
- Operable at 220V, 50Hz, single phase AC Supply.
- Smart convertible option to switch between Freezer and Fridge.
- Latest BEE certified 5-star Energy rating.
- Material used for shelves should be made of toughened glass/ wire shelf.
- One-year Comprehensive warranty
- The compressor warranty should be a minimum of 4 years or the standard warranty provided by the OEM, whichever is longer.
- A warranty registration and service support certificate from the Original Equipment Manufacturer (OEM) must be provided.
- Technical support based on every district level in Andhra Pradesh.
- List of users and satisfactory report of quoted model from required institute preferably government institute/hospitals.
- All electrical peripherals required for smooth functioning e.g. suitable voltage stabilizer provided with the equipment.

26. Pulse oximeter with NIBP

1. Parameters Measures - SPO2+Pulse Rate+NIBP
2. Display Type - Single colour LED,high brightness
3. Memory - Flash Memory
4. High brightness TFT LCD display
5. 2000 group NIBP Data Storage & Spo2
6. Data upto 48 Hrs
7. Adjustable visual & audio alarms
8. Built in rechargeable Li-Polymer battery.

List of balance items

Sl. No	Name of the Item	Required Qty
1	VDRL shaker	15
2	Weighing machine	15
3	Hemoglobinometer	15
4	Minus (-) 80 Deep freezer	11

Balance DEIC items				
Sl. No.	**Item Sl. No.**	**Name of the Equipment General Assessment**	**No. of Units**	
(I) Equipment Required for Peadiatrics				
1	1	Paediatrics stethoscope (2 per DEIC)	32	
2	2	Sphygmomanometer with Paediatric cuff	16	
3	3	Direct ophthalmoscope	5	
4	4	Paediatric Auroscope	22	
5	5	Ear speculum	23	
6	6	Magnifying Glass - Medium	23	
7	7	Weighing Machine (both baby and adult)	15	
8	8	Knee Hammer	26	
(II) Equipment's Required for Dental – Materials				
9	1	Forceps set for extraction (Pedodontic)	17	
10	2	Wall Mounted Dental x ray with RVG	16	
11	3	Table top Front-Loading autoclave (electrical)	6	
12	4	Forceps set for extraction (Adults)	4	
13	5	Restorative Filling and Carving Instrument: Set	7	
14	6	Elevators set of 10 (Ten)	2	
15	7	Contra angle handpiece	3	
16	8	Dental Ultrasonic Scaler (complete set)	3	
17	9	Composite Filling Instruments	7	
18	10	Dental Electric Brushless Micromotor	11	
19	11	LED Curing Light source	7	
20	12	Automatic Water Distiller	17	
21	13	Mallet	31	
22	14	Needle Holder	29	
23	15	Bone Chisel	13	
24	16	X-ray viewer	32	
25	17	Stainless steel Bin (Surgical)	18	
26	18	Hand Scaler (complete set)	6	
27	19	Lead apron	34	
28	20	Mouth Mirrors (Pack of 10)	34	
29	21	Probes (Pack of 10)	26	

30	22	Explorers (Pack of 10)	20	
31	23	Tweezers (Pack of 10)	22	
32	24	Cheatle forceps	26	
33	25	Plastic Cheek Retractors	30	
34	26	Mouth Props (Adult + Pediatric) set of 2	25	
35	27	Cement Spatula	18	
36	28	Matrix Band and Retainer (both no. 1 & 8)	10	
37	29	Dental Impression Trays (upper and lower)	2	
38	30	Rubber Bowls	24	
39	31	Plaster Spatula - Straight and Curved	23	
40	32	Glass slab	20	
41	33	Scalpel handle	28	
42	34	Glass dapen dish	26	
(III) Equipment's Required for Laboratory				
43	1	Digital Hemoglobinometer	16	
44	2	Test tubes (Pack of 100)	34	
45	3	Empty Vials (Pack of 100) - 10ml	34	
(IV) Equipment required for Office				
46	1	Desktop and UPS	16	
47	2	All in One (Printer + Scanner + Photocopier)	16	
48	3	Android Television (34 Inc)	34	
49	4	Computer Table	16	

Specifications			
(I) Equipment Required for Paediatrics			
Sl. No	**Item Sl. No.**	**Name of the Equipment**	**Technical Specifications**

1	**a**	**Paediatrics stethoscope (2 per DEIC)**	• Dual-sided chest piece with small 3.3cm diaphragm is ideal for infant patients • Stethoscope of pediatric size, chromium plated metal binaural • Versatile chest piece design provides high acoustic sensitivity with both a floating diaphragm and open • bell • Soft-sealing ear tips provide an excellent acoustic seal and comfortable fit • Headset is easily adjusted for individual fit and comfort. Angled ear tubes align with ear canals • Binaural Construction: Single lumen • Chest piece Finish: Machined Stainless Steel • Chest piece Size :1.31 Inch/3.3cm, I Inch/2.5cm • Chest piece Weight (Metric): 40 g • Chest piece Technology: Double-sided • Diaphragm Diameter (Metric): 3.3 cm • Diaphragm Material: Epoxy/Fiberglass • Net Weight (Metric): 105 g • Small Diaphragm Diameter (Metric): 2.5 cm • Overall Length (Metric): 71 cm • Accessories needed (Extra): I spare set of earpieces, I spare diaphragm' • Certifications: US -FDA / CE / BIS • Warranty Period: 3yr

2	**b**	**Sphygmomanometer with Paediatric cuff**	• Technical characteristics (specific to this type of device): • Scale 0-300 mm hg. Air release aI closed lap with maximum 4mmHg/Minute. Manual setting of deflation possible upto2/3mm Hg/sec. From 260mmHg. To 15mm Hg in a maximum deflation time of l0 seconds. Gauge's background in white color. Graduated scale for ever/ 2mmhg, every l0 units and every 20 units. Nylon straps cuff with pouch, latex bulb with completely chromium plated valve with regulation of vent-hole air by screw valve. • Settings: The cuff is inflated just to fit in the limb for which an inflation bulb is used to control the air pressure within the cuff. • Dimensions (metric): • the rubber tubes used should have an internal diameter. of 3 + 0.5mm and the external diameter should not be, less than 8mm; The dial manometer with minimum. diameter of 160 mm • Mobility, portability: YES • Accessories (mandatory, standard, optional); Spare parts (main ones); Consumables / reagents (open, closed system): • adult arm cuffs of size Adult Child(size - 9/10). Child(size-8), Infant (size -7)and Neonate(size -6),inflation bulb, tubing. • Atmosphere / Ambiance (air conditioning, humidity, dust ...): • Capable of being stored continuously in ambient temperature of 0 lo 50 degree C and relative humidity of l5 to 90%. Capable of operating continuously in ambient temperature of l0 to 40 degree • C and relalive humidity of l5 to 90%.. • Certificates (pre.market, sanitary,,,)1 Performance and safety standards (specific to the device type); • Local and/or international: US-FDA/CE/ISO 13485 • Pre'installation requirements: nature, values, quality, tolerance: Supplier to perform safety and operation checks before handover. • Requirements for sign-off: Certificate of inspection from the factory. • Training of staff (medical, paramedical, technicians): Training of users in operation and basic • maintenance shall be provided • Recommendations or warnings Any recommendations for best use and supplementary: Warning for safety should be declared • Warranty: 3 years

3	**c**	**Direct ophthalmoscope**	• TECHNICAL CHARACTERISTICS • Available with LED/Halogen light source. • Magnification up to x15 from direct vision to maximum magnification • Red-free, blue and polarization filters and Anti-reflection lens. • Should have small and large spot sizes, fixation targets, slit aperture, hemi-spot and cobalt blue filter. • Should be rechargeable battery with Charger / battery/ mains operated. • At least 3 apertures and fixation star. • Range of lenses not smaller than -30D to +20D with steps not greater than LD. • Dust free sealed optics and a spherical optical system. • Weight (lbs, kg) NA 3.3 Noise (in dBA) NA • Heat dissipatlon NA • Mobllity, portability supplied in protectlve case for clean storage and safe transport. • ENERGY SOURCE (electricity, UPS, solar, Bas, water, CO2 ....) • Power requirements 220 to 24OV,50 Hz • Battery operated Internal batteries, rechargeable preferred compatible with both 2.5 V and 3.5 V batteries or handles provided; Led display indicating the charging status. • Protection Yes • Power consumption To be specified by Vendor • ACCESSORIES, SPARE PARTS, CONSUMABLES • Accessories, (mandatory, standard, optional); Spare parts (main ones); Consumables/reagents (open, closed system) a. Bulb - 2 nos BIDDING/PROCUREM ENT TERMS/DONATION • REQUIREMENTS • STANDARDS AND SAFETY • Certificates (pre-market, sanitary,..)i Performance and safety standards (specific to the device type); Local and/or international • Should be US FDA/CEIBIS/CDSCO/ approved (USFDA/CE requirements will be applicable only when the Indian standards like BIS/CDSCO are not available.) • Manufacturer should have ISO 13485 certification for quality standards • ISO L0942:2006 Ophthalmic instruments -- Direct ophtha lmoscopes. • WARRANTY AND MAINTENANCE • warranty 3 years, including for all spares and calibration

4	**d**	**Paediatric Auroscope**	• Focus range: 8-70 mm • Object distance: l- 160 mm • Light source: 4 adjustable white LED Lens or Halogen bulbs with 5 extra bulbs • High definition microscopy lens • Should provide no reflections and obstructions • Should have one camera with camera probe and RCA video cable • Paediatric reusable speculum of various sizes • PreGrably SD card for image storing • Should have in built rechargeable battery. Recharge should be possible with Direct mains supply. • A clear and sharp image can be acquired and displayed instantly on a built-in screen by pressing a single button and maximum waiting for 3-5 seconds • Real Time Interaction: The medical image should be captured and shared simultaneously with patients and storing an electronic medical record where the image can be retrieved • Software • Compatible software for storing and displaying in PC • Certifications: US-FDA / CE / BIS • Warranty: 3 years
5	**e**	**Ear speculum**	**Stainless steel small**
6	**f**	**Magnifying Glass - Medium**	**Medium**

7	g	**Weighing Machine (both baby and adult)**	Electronic Baby Weiqhing Scale Technical characteristics (specific to this type of device): l. Table top, light and portable, 2. Built in rechargeable battery, 3. Easy to clean baby tray (acrylic), 4. Zero weight adjustment facility, 5. Quick, clear digital read outs, 6. Measurement does not change with position of baby on the pan; 7. Provision to measure the height of the baby in its laying position. 8. Accuracy: 59, resolution: lg, limit: l0 gm - 15kg Settings:- Auto setting to 0.00 once a the machine is switched on or when no external weight has been put on User's interface: LCD Display Dimensions (metric):- Base: 300mm x 265mm x 85mm, Pan: 5lOmm x 300mm x 85mm Battery operated: 6V, one hour backup Certifications: US-FDA/CE/BIS Warranty: 3 Years Electronic Adult Weighing Scale (Platform Type): 1.Capacity: 160 kg 2. Accuracy: 100 g 3. Platter Size: 350 mm x 300 mm (Tolerance +/- l0o%) 4. The scale should be made up of heavy duty. Cast iron structure Platform with powder coated Frames. 5.The Electronic Adult Weighing Scale should incorporate following features for user-friendly Convenience. 6. Display: LED / LCD : 5 digits with min. height l4 mrn. 7. TARE facility with zero function. 8. HOLD function to lock the weight. 9. MEMORY function, to keep the last weight in memory. 10. The Scale should have inbuilt rechargeable battery backup for minimum of 8 hrs. 11. Should operate on mains 220-240Vac, 50 Hz single phase. 12. The Scale should be as per BIS specifications. The scale should have ISI mark. 13. Certifications: US-FDA/CE/BIS 14- Warranty: 3 Years
8	**h**	**Knee Hammer**	**Stainless steel Handle with Triangular Rubber Hammer**
(II) Equipment's Required for Dental-Materials			
9	**a**	**Forceps set for extraction (Pedodontic)**	**Set of Seven (7) Forceps**

10	b	**Wall Mounted Dental x ray with RVG**	SPECIFICATION FOR DENTAL X-RAY: Operation should be conventional as well as automatic. Completely micro controller based digital timer assuring the accuracy ofthe exposure time selected. Ease of operation as all the functions can be selected from the remote control as well as timer. Feather touch keypad and length of exposure cable should be 5 to 6 meters. Digital timer with the accuracy of 0.01 Sec (0.01 Sec to 4.00 Sec). Patient selection Switches (Thin, Normal and Obese) Film Speed selection switches (3 Speeds) RVG mode for RVG sensor. An excellent output of 65 kV to 70 kV, TmAs to l0 mAs. Audible and Visual indication of "X-Ray On" (Radiation indications). Should provide compatible voltage stabilizer (Built in/External). Collimating device should be 20 cm in lenglh and parallel/square in a lead shied should also be provided Excellent, Mechanical maneuverability, long reach scissor arm. SPECIFICATION FORRVG: 1 SUPER CMOS/CCD Technology 2. Sensor Size No.1 (universal)/ Size No.0 (pediatrics/Size No.0 (optional). 3. No. of Pixels l6 tP/mm - 24lplmm (true solution). 4. Pixel size is 18.5 x 18.5 micron. 5. Should provide compatible software with Image capture, enhancement and manipulation tools. 6. Sensor cable length should be 3 meters and reinforced for durability and reliability (Fiber optic and scintillator tech). Power requirements 230V, AC, 50 Hz, l5 Amps, Protection Suitable stabilizer to be provided. High voltage protection for X-ray tube Noise (in dBA) Noise-free system CERTIFICATIONS: Should have safety certificate from a competent authority BIS/CE/USFDA and ISO 13485 certificate The Unit should be approved by AERB WARRANTY:3 years
11	**c**	**Table top Front-loading autoclave (electrical)**	Specifications attached in below
12	d	**Forceps set for extraction (Adults)**	**Set of seven (12/14) forceps**

13	**e**	**Restorative Filling and Carving Instrument: Set**	**Set of 5 (Plastic filling instrument wards carver, round condenser, Spoon excavator, Ball Burnisher)**
14	**f**	**Elevators set of 10 (Ten)**	**Set of 10**
15	g	**Contra angle handpiece**	**Stainless steel body, push button chuck type, speed of 30,000 RPM, gear ratio of 1:1**
16	h	**Dental Ultrasonic Scaler (complete set)**	**1 Ultrasonic scaler with frequency of 28Khz, power output of 10-50W, 05 scaling tips G1, G2,G3,G4,P1 and 01 scaler tip torque wrench**
17	**i**	**Composite Filling Instruments**	**Set of 6 stainless steel**
18	j	**Dental Electric Brushless Micromotor**	**Stainless steel, mini electric motor system with 3 modes (16:1, 1:1,1:5)**
19	**k**	**LED Curing Light source**	**With light output of 1000mW/cm2- 1200mw/cm2, LED curing light, Guide rod tip, light slide**
20	**l**	**Automatic Water Distiller**	**Voltage of 220V, Power of 750W, Capacity of 4-6L**
21	**m**	**Mallet**	**Regular**
22	**n**	**Needle Holder**	**Regular**
23	**o**	**Bone Chisel**	**Regular**
24	p	**X-ray viewer**	**42 x 50 cm, powder coated ms cabinet with frame, Acrylic sheet, light weight, portable with 2 X ray film holding clips power of 12V, 50-60Hz**
25	**q**	**Stainless steel Bin (Surgical)**	**Medium size Bin (Auto clave), round, 11" x 9"**
26	**r**	**Hand Scaler (complete set)**	**Set of three**
27	**s**	**Lead apron**	**0.35 or 0.5 mm lead equivalent**

28	t	Mouth Mirrors (Pack of 10)	Stainless steel
29	u	Probes (Pack of 10)	Stainless steel
30	v	Explorers (Pack of 10)	Stainless steel
31	w	Tweezers (Pack of 10)	Stainless steel
32	x	Cheatle forceps	Large
33	a1	Plastic Cheek Retractors	Medium size Bin (Auto clave), round, 11” x 9”
34	b1	Mouth Props (Adult + Pediatric) set of 2	Small and Large
35	c1	Cement Spatula	Regular
36	d1	Matrix Band and Retainer (both no. 1 & 8)	Regular
37	e1	Dental Impression Trays (upper and lower)	Perforated stainless steel trays with sizes 1,2,3,4
38	f1	Rubber Bowls	Medium size Bin (auto Clave), round, 11” x 9”
39	g1	Plaster Spatula - Straight and Curved	Regular
40	i1	Glass slab	7.5cms x 15cms x 10mm
41	j1	Scalpel handle	Regular
42	k1	Glass dapen dish	Regular

11.Table top Front-Loading Autoclave

Autoclave
Technical Specifications Compliance on each parameter with detailed substantiation how the offered product meets the requirement. (Simply writing as YES/ Complied/ As per BIS/CE/ISO terms is not allowed)
1. Horizontal Cylindrical High Pressure Steam manufactured as per BIS specification No. IS: 3829 (Part-1) – 1978, with the latest amendments and bearing BIS Mark IS: 3829 (Part-1).
2. SHAPE & DIMENSION: CYLINDRICAL 400MM X 600MM approx
3. MODE OF HEATING: Electrically heated by immersion heaters of 6kW electric load wired for operation on 1phase 3-wire, 230 volts 50Hz A.C. Supply.
4. Working Pressure: 20Lbs/Sq. Inch. 1.26kgf/cm2.
5. Operating Pressure: 1.05+0.15Kgfcm2. Approx. (20psi).
6. Operating Temperature : About 121°C.
7. Hydrostatic Test:- The shell should be subject to hydrostatic test to twice the working pressure.
8. Material of Construction: a) Chamber & Back Plate: SS Sheet of grade (04Cr18Ni10) 304 non-magnetic 10SWG. b) Jacket & Boiler: SS Sheet of grade (04Cr18Ni10) 304 non-magnetic 12SWG. c) End Ring: SS 304L non-magnetic. d) Piping & Connections: Made of Stainless Steel having mirror finish. e) Dished Door: Stainless Steel 304 quality 14mm thick
9. DISHED DOOR: Fitted with one Dished Door SS-304 and brass Hinges, with SS-304 radial arms to manipulate smoothly by well-insulated handles, and shall have gunmetal Door Locking assembly & automatic pressure locking device to provide complete safety to the operating personnel against any explosive opening of the door under high pressure. Provision is made to tighten the dished door while in locked position. A moulded steam and heat resisting silicone joint less gasket shall be fitted to the door.
10. OPERATING VALVE: To control the cycle of sterilization as per BIS standards.
11. SAFETY VALVE: As a pressure switch for controlling pressure is provided on the jacket, spring- loaded safety valve should be provided to the jacket as a safe guard against excess pressure in the jacket.
12. EJECTOR:- A powerful ejector system to create partial vacuum (help in quick drying).
13. DRYING SYSTEM:- Allows filtered air into the chamber during drying cycles.
14. VACCUM BREAKER: Prevents formation of accidental vacuum in jacket due to steam condensation.
15. PLUG SCREEN : Fitted in Chamber, prevents Chamber from clogging with lint and sediment.

16. DIAL THERMOMETER : Indicates the working temperature in the Chamber accurately.
17. PRESSURE GUAGE: Indicates the actual pressure of steam in the jacket
18. COMPOUND GUAGE: Indicates the vacuum and pressure in the chamber
19. A POCKET(FOR THERMOGRAPH): Provision to fit the bulb of temperature recorder
20. STEAM (Float) TRAP AND CHECK VALVE: Fitted into the discharge line for automatic removal of residual air and condensate to give optimum sterilization temperature.
21. BOILER (STEAM GENERATOR): Cylindrical type and fitted to underside of jacket. It should be fitted with:
22. Immersion type heating elements (Total 6kw Load).
23. A Low Water protection Float Level Switch for heaters to cut off electricity supply to heaters through a float switch and Contactor if the water level runs below heater level.
24. Water Level gauge glass tube top indicate the level of water in boiler which is capable of self- locking in case of it breakage.
25. Water inlet valve with Non return Valve and drain valve etc.
26. Pressure control switche to control and keep pressure constant in the Jacket.
27. Heater mounting plate (10mm thick) and nut bolts are made of Stainless Steel 304.
28. Pressure gauge provided to the boiler for indicating pressure in the boiler.
29. In addition, equipped with magnetic air break contactor, Toggle switch & RED & GREEN indicators.
30. It should be CE or US FDA Approved.
31. TRAY (STAINLESS STEEL): Provided in the Chamber of suitable size.
32. Whole unit should be mounted on a tubular pipe stand with leveling flanges and duly painted with best heat resisting epoxy paint.
33. Warranty: 3 years

(VI) Equipment required for Laboratory			
43	**a**	**Digital Hemoglobinometer**	• Should have testing time ofnot more than 5 seconds • Sample volume should not be more than 20uL • Range of measurement should be between 0to25g/dl • Output: On-board screen display screen, printer(optional) • Should be able to withstand outdoor environmental conditions **User's interface:- Manual** **Software and/or standard of communication (where ever required):-** **Microprocessor based proprietary software** **Weight (lbs., kg): Max: 250 g (excluding battery)** **Protection: Should have inbuilt protective mechanism** **Power consumption: Internal batteries (should be easily available in market)** **Certifications: US-FDA/CE/BIS** **warranty : 3 Years**
44	**b**	**Test tubes (Pack of 100)**	**Glass test tubes pack of 100**
45	**c**	**Empty Vials (Pack of 100) - 1Oml**	**Glass Empty vials pack of 100**

(VII) Equipment required for Office			
46	**1**	**Desktop and UPS**	**Specifications attached**
47	**2**	**All in One (Printer + Scanner + Photocopier)**	**Specifications attached**
48	**3**	**Android Television (40 - 5O Inc) 50**	**Specifications attached**
49	**4**	**Computer Table**	**Specifications attached**

Specifications for Desktop & UPS

DESK TOP :Processor: 10th Generation - Intel Core i3 processor or Higher
chipset: Compatible Chipset
Motherboard: OEM Motherboard
RAM: Min. 8GB RAM
Hard drive: Min. 1TB SATA HDD
Audio: Integrated audio
Webcam: 720p Integrated Integrated Web Cam
NIC: Integrated 10/100/1000 Mbps NIC or Higher
Display Monitor: 21.5" or above TFT LED Monitor without touch
Form factor: All-In-One
Keyboard: USB Minimum 104 Kess Keyboard <<Same make as PC >>
Mouse: USB 2 button Oprical Scroll mouse << Same make as PC>> with Mouse pad
Ports: Min 6 USB ports (min USB 3.0 - 2 nos), Video port and HDMI / DVI Port / DP In case AIO is offered with wireless mouse, 4 USB Ports are acceptable.
Power supply: As per manufacturer Standard
For PC : MS Windows & Linux Certified << Certifications to be enclosed>><<EPEAT Registered>><<FCC>><<ROHS>>
Operating System: Pre-Loaded MS Windows 10 Professional 64 bit with product key License
Accessories: With required connecting cables and driver media should be supplied
Certifications: CE/ For OEM : ISO 9001 : 2015, ISO 14001:2015
Warranty: 3 Years Onsite comprehensive warranty on hardware & OS.
AMC Percentage: AMC Parcentage for 1st year & 2nd year beyond warranty period to be mentioned in the technical compliance sheet
UPS
Capacity: 1KVA
Technology: MOSFET PWM Technology
Input Voltage Raneg: wide range form 160V to 270VAC
Frequency Range: 45 to 55 Hz
Phase: Single Phase with Ground
Power Factor: Active Power factor correction >0.99
Output
Voltage: 23OVAC
Voltage Regulation: +/- 1%
Capacity: 1KVA
Frequency: 50Hz + /- 1%
OutPut Wave Form: Stimulated Sine wave
Crest Factor: 03:01
Effiiciency AC- AC: High efficiency >85%
Power factor: 0.8
Overload capacity: 125% 30 seconds

Battery Capacity: 216VAH batteries Batteries or Heigher
Battery Type: Battery type : SMF(Sealed Maintenance Free -Exide/Amar Raja-Qua nta/Panasonic Make) Propsed Supply of Batteries should be of latest batch not older by 3 monthsas on date of supply
Rack: Suitable powder coated Battery rack should be provided
charger: Built in Solid float - cum - boost charger with Automatic boost trickle charge modes with current limiting features
Line to battery mode Transfer Time: 0 ms
Cold start: should be available
Display &User Friendly front Panel: LED Display of informative Indicators along with mimic display of all important para meters
Idications: Mains ON,Invertor ON/OFF/Faulty, Battery level,Static Bypass ON, Load Level
AudbleAlaram: Mains Failure Alaram, Low Battery Alaram and Overload
Protection: Advanced ElctronicProtection for device safety backed with MCBS/MCCBs/fast Acting fuses,High speed pulse blanking,Electronic over voltage,/Under Volatage
Cold Restart: Yes
standard Interface: RS 232 interface for Software,WITHUPsilon 2000/view power/Monitoring software
Cabling And Connectors: Vendor should supply with cablesto complete installation of ups system and provide atleast 2 spike suppressor with 3 or 4 nos of 5 AMPS to connect the sockets from Output
Certifications: BIS,ISO 9001-2015,1SO14001-2015, for OEM
Certifications: Proposed model of UPS should be ETDC/SAMEER/NTH certified
Certifications: CE/ Relavent and valid certifcations to be submitted
Warranty: 2years comprehensive warranty on both Ups & batteries
AMC Percentage: AMC percentage for 1st year & 2nd year beyond warranty Period to be mentioned in the technical compliance sheet(AMC including batteries)

Specifications for All in one (Printer, scanner, Xerox)

Features: Print, Copy, Scan, Duplex & Network Facility
Print Speed: Up to 25 PPM speed or Higher
Resolution: Up to 600 X 600 dpi
RAM: Min 64 MB or higher
Media Size: A4, LTR, Legal
Duty cycle(A4) monthly: 8000 pages or above
Cost per page (Genuine Cartridge Yield / MEP): <<Specify & Attach Evidence>>
Interfaces: USB 2.0 or higher and Ethernet Port
Duplex Printing: Auto Duplex
ADF(Automatic Document Feeder): 30 Sheets or More
OS Support: Windows and Mac
Cartridge: Should be supplied with integrated or separate toner & drum along with initial drum and toner for the offered model as per OEM standard
Certifications: CE/SSL
Warranty: 3 Years

Specifications for Android Television (40 – 50 inch)

Type *	Direct Backlight Unit (LED OR LCD)
Size	40 – 50 inch
Resolution (Pixels) *	[3840 X 2160] 4K
Category *	Smart
Typical Brightness *	370 NITS or Better
Wattage of Speakers *	10W x 2
Operating System	Latest
Dynamic Contrast Ratio	1,000,000:1
Screen Mirroring	Yes
Mount Type *	Both table and wall mount
Inbuilt Speakers *	Yes
Power Consumption (Watts) Typical*	less than 170 W
Number of HDMI Ports *	3 or More
Number of USB Ports *	1 or More
Built-in Wi-fi *	Yes
Certifications:	CE/BIS/RoHS
Warranty Information:	3 years

Specifications for Computer Table

Overall Size(W x D x H):(+/-1)mm

One Cub Board CPU Tray with Pull Key Board With L Pad

Length: 1200, Width 600,Height:750

One Draw One Cub Board CPU Tray with Pull Key Board With L Pad.

Procurement and supply of balance items to Kidney Care Palasa

S No	Item Name	Qty
1	Thermal Cycler -96 Wells	1
2	Fully automated Urinary Analyzer	1
3	2 BODY FREEZERS	2
4	RAPID INFUSION PUMP/RAPID INFUSER	1
5	Blood Fluid Warmer	3

S No	Item Name	Qty
1	Endo Surgical Instrument (Urology)	1
2	Renal/Kidney Transplant Instruments Set	1
3	Operating Cystoscope- Paediatric	1
4	Nephroscope (19.5 Fr)	1
5	Ureteroscope - Paediatric	1
6	The Ureteroscope should have a distal tip of 7.5-9F and length of 40- 45 cms	20

Technical Specifications:

1. **Thermal Cycler- 96 wells**

- Should have a sample capacity of 96x0.2ml tubes, 0.2ml tube strips or 1x96-well plate with Peltier heating and cooling.
- Should have gradient capability and have the feature of dynamic ramping (identical hold times) for all the 8 rows of a gradient.
- Should have a temperature differential range of 1-25degC.
- Should have intuitive 5.7” (14.5 cm) touch screen interface which can displays graphics in high resolution for easy programming.
- The touch screen should be responsive for both gloved and ungloved fingers.
- Should be capable of running reaction volumes from 1-100ul.
- Should have a maximum ramp rate of 4 degC/second with an average ramp rate of 2.5degC.

- Should have a temperature range of 4-100 deg C
- Should have a gradient range of 30-100 deg C
- Should have a temperature accuracy and uniformity of ± 0.5 deg C
- Should have a memory of >500 programs with further expansion through a USB Flash drive for transfer of files.
- Should have block and calculated temperature control modes.
- The software should have exportable Run logs and system error logs
- Should have quick boot up time of not more than 1 min.
- Should be quiet in operation.
- System should have built in library of standard protocols for long PCR, fast PCR, reverse transcription PCR etc.
- Should have the feature of “instant incubation” to keep samples at constant temp. for ligation and restriction digests.
- Should have power save mode.
- Should be compatible with all kind of plastic consumables and reagents specially reusable sealing Mats.
- Quoted model should have atleast 50 successful installations in India and the user list should be provided.
- System should be quoted along with compatible online UPS

2. **Fully automated urine analyzer**

1. The analyser should be compact benchtop, fully automated integrated urine analyser, integratingurine chemistry and urine sediment analysis.
2. Chemistry parameters required to be provided should be glucose, protein, blood, bilirubin,urobilinogen, ph, ketones, nitrate, leuokocyte, creatinine & albumin.
3. Additional instrument parameters should have specific gravity, turbidity & colour.
4. The analyser should be based on fluorescence flowcytometry/Digital flowcytometry for accurate measurement of urine parameters such as rbc, wbc, epithelial cells, cast and Bacteria.
5. The instrument should provide scattergrams and histograms or actual images for easy interpretation.
6. The analyser should provide additional rbc information, uti information and conductivity.
7. The analyser should have user friendly software with cross check function.

8. The analyser should have a throughput 100 samples / hour (chemistry) & 50 samples / hour (sediment analysis).
9. The equipment should have a storage of 200 test strips at a time with continuous loading for true walkaway analysis.
10. The equipment should be capable of analysis in both manual and sampler mode.
11. Sampler should have the capacity of 60 sample tubes and internal barcode for sample identification
12. Controls should be available for both chemistry and sediment analysis
13. Data storage of 10000 samples including graphics & multiple qc files, with 300 data points each should be available.
14. The equipment should have interface for output to printer or transmitted to LIS / HIS and it would the responsibility of the supplier to do the interfacing.

3. Mortuary Freezer (2 Body Capacity)

1. General

a. Designed for long storage of cadavers.

b. Proper design ensuring best hygiene.

c. Energy Efficient.

d. Sturdy Construction

e. Light Weight

f. Low Maintenance.

2. Body of the Mortuary Chamber

a. Mobile with brakes for castor wheels.

b. Corrosion free exterior and interior.

c. Double walled cooling units.

d. Outer shell constructed of thick steel sheets of type 304- SS grade

e. The inner chamber to be of heavy gauge stainless steel sheet of SS-304 grade.

f. The 100 mm gap between the walls to be filled with high grade polyurethane insulation, ensuring maximum thermal efficiency. Puff density should be 40kg/cu m.

g. The doors to be made of stainless steel for extra protection and long life.

h. The doors should be connected by sturdy heavy duty chrome plate hinges and fitted with hard chrome plated lubricated latches for opening the door. Individual standard key lock for each chamber.

i. All the doors to be fitted with high quality triple point neoprene rubber gaskets for air tight fittings and magnetic closure fittings and lock.

j. Washable interiors with channel for water outlet that can be plugged with rodent resistant material.

k. Vapour proof lamp inside

3. Body Trays Sturdy, proper loading body trays, with telescopic sturdy castors and castor locks to prevent rolling out of the tray.

4. Dimensions

Width - 1194 mm + 10 mm.

Depth - 2362 mm + 10 mm.

Height – 1745 mm + 10 mm.

Height with cooling unit – 2215 mm + 20 mm.

5. Temperature & Controls:

a. Microprocessor based temperature control.

b. Temp range +2 to +8ºC

c. Digital LED display. Touchpad data entry for adjustable temperature and alarm settings or better.

d. Audio visual alarm for high and low temperature

e. PUF insulation

f. ISI certified high end ultra mute CFC-free hermetically sealed compressors, conforming to latest international standards and guidelines.

g. Efficient condenser with automatic evaporating system (condensate).

h. Forced air circulation system

i. Automatic defrosting system.

- The unit shall be capable of operating continuously in ambient temperature of 30-40 deg C and relative humidity of 15- 90 %
- The unit shall be capable of being stored continuously in ambient temperature of 10-50 deg C and relative humidity of 15 – 90 %

Power Supply:

- Power input to be 220 – 240 VAC, 50 Hz and suitable stabilizer (4kVA or higher).
- Battery back-up on display for 0 to 4 hrs. in case of power failure.
- Fitted with Indian plug.
- Should be FDA, CE, BIS approved product
- Manufacturer should have ISO certification for quality standards.
- Comprehensive training for staff and support services till familiarity with the system.
- List of important spare parts and accessories with their part number and costing.to be provided
- List of equipment's available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service / technical manual and NABH.

Warranty and Maintenance:

Warranty for 3 years followed by CMC for 4 years for all parts including service.
Complete sealed system to avoid Rat bites all electrical/electronic related items.
Any damage of rat bite should be rectified by the firm at free cost during warranty & CMC.
Calibration certificate must be provided at the time of installation.
Calibration certification to be provider as per NABH Norms till the warranty period

4. Rapid Infuser

1. System should be compatible for all kind of fluids including crystalloids, colloids and blood products.
2. It should have automated pressure chambers (Minimum 02) providing constant pressure for rapid infuser.
3. Chambers should allow fast and easy bag change.
4. It should allow constant heat exchange, free of any hotspot.
5. The heating system must be safe and sealed with faster heat transfer.
6. The maximum set point should be up to 42 degree centigrade.
7. It should be equipped with automatic air elimination without the need for frequent repriming.

8. It should have built in safety features to prevent overheating with an audible and visual alarm.

9. Audio and visual alarm should also indicate if the disposable is not instituted correctly or recirculating solution in the reservoir is below the minimum desired level.

10. The infuser must be capable of delivering warm or norm thermic fluids at a wide range up to 1000 ml. per min.

11. It should be compact, with custom IV pole mount with workstation and flanking side polls for additional syringe pumps.

12. The quoted model should have US FDA/CE Notified Body/ BIS certified.

13. The manufacture should have ISO 13485 Certified.

14. 3 Years Warranty and 4 CMC to be provided.

5. **Blood Warmers**

Delivery bold and intravenous fluid to the patient at normothermic temperature at wide range of flow rates from gravity flow rates to 5000ml/hr	
Dedicated disposable triple lumen tubing that eliminates patient line cool down of infusate	
Single step programming of warranty	
Display set point of recirulating reservoir	
Meets AABB standards for blood warming	
Disposables must be latex free	
Built in safety audio and visual alarms for Check disposables, Add recirculating should and Over Temperature	
Built in over temperature test button and alarm test button	
US-FDA approved/4 digit notified CE Marked/BIS and ISO 13485 Certified	
Company Owned service centre in AP, India	
Physical	Dimensions
Height, Overall	24.1 cm (9.5 inches)
Width, Overall	21.0 cm (8.3 inches)
Depth, Overall	17.8 cm (7.0 inches)
Weight, Dry	3.5 Kg (7.6 lbs)

Weight, wet (with recirculating solution)		5.0 Kg (11.0 lbs)
Weight, Shipping		3.6 Kg (7.95 lbs)
Recirculating Solution Capacity		1.4 L (0.37 gallons)
Maximum Height on I.V. Pole		107 cm (42 inches)
Environmental		Temperature Humidity [%]
Operation		10°C to 45°C 10 to 95
Transportation		-18°C to 60°C 5 to 90
Storage		-18°C to 60°C 5 to 90
Thermal		Temperature
Temperature Set Point		41.9°C ±0.1°C
Over Temperature Set Point		43.1°C
Electrical		Type
MAINS Power Input: 230V		230VC, 50/60 HX, 1.5 Amps
Electrical		Type
Protection Against Electrical Shock		Class 1 Equipment, Type BF
Mode of Operation		Continuous
Type of Current		Alternating
Ingress Protection Rating		IPX1
Performance		
Recirculating Solution Temperature		Recirculating solution temperature reaches 37°C from ambient in about 4 minutes
Normothermic Flow Rates		At gravity flow rates to 5,000 ml per hour
Warranty	:	3 years warranty from date of installation

<u>Group-A</u>

1. Endo Surgical Instrument (Urology)

The rate for the following instruments shall be quoted individually and the L1 shall be calculated by adding all costs.

1. Cystoscope 0°, Ø4.0 mm – 1
2. Cystoscope 30°, Ø4.0 mm – 2
3. Cysto-urethroscope sheath 17 CH, with 2 stopcocks with obturator – 1
4. Cysto-urethroscope sheath 21 CH, with 2 stopcocks with obturator – 1
5. Cysto-urethroscope sheath 25 CH, with 2 stopcocks with obturator – 1
6. Telescope bridge with 1 working channels for 1 instrument with max. 12 CH – 6

7. Telescope bridge with 2 working channels for 1 instrument with max. 12 CH, 2 with 8 CH – 1
8. Biopsy forceps short jaws, double action for use with Full HD Cystoscope 30°, Ø4.0mm – 1
9. Grasping forceps with serrated jaws double action – 1 nos
10. Optical stone grasping forceps double action – 1
11. Working element, passive one stem systems – 1
12. Resectoscope – cable 4.5m long, with 4mm plug – 2
13. Cutting loop 24 charr, 30°, angled, yellow – 12
14. Coagulation electrode 24 charr, pointed, yellow – 6
15. Coagulation electrode, ball shape 24charr, Ø3mm, yellow – 6
16. Resectoscope sheath, continuous flow complete, 26CH, rotatable QL, oblique ceramic tip, incl. Inner shaft 24 CH, rotatable quicklock – 1
17. Deflecting obturator with optical obturator 24/26CH – 1
18. Urethrotom sheath 21/22CH-1
19. Obturator f. urethrom sheath 21/22 charr, with channel for guide wires – 1
20. Shaft, lateral open for urethrotomy sheath Obturator f. urethrom sheath 21/22charr, with channel for guide wires for insertion of balloon catheter – 1
21. Sachse knife for working element with 1 guide stem – 3
22. Knife, round for working element with 1 guide stem – 3
23. Mauermayer stone punch with sheath and obturater 258 CH -1

All the instruments should be made by same manufacturer as cystoscope and ureteroscope and nephoscope and for endoscopic removal of prostate and should have

14.RenalTranplantInstruments

DONORNEPHRECTOMYSET

S.No.	Description		Qty
1	MAIERFORCEPSW/RCHTCVD260MM	4 DIGIT CE	2
2	MAIERFORCEPSW/RCHTSTR260MM	4 DIGIT CE	4
3	BACKHAUSTOWELCLAMP 110MM	CE/BIS	10
4	TOWELCLAMP FORPAPER CLOTHS 115MM	CE/BIS	10
5	SCALPELHANDLE#4 135MM	CE/BIS	1
6	SCALPELHANDLE#3 125MM	CE/BIS	1
7	SCALPEL#4L	CE/BIS	1

safety certificate CE issued by a notified registered in European Commission/FDA(US) certificate.

8	SCALPELHANDEL#3L	CE/BIS	1
9	SCALPELHANDLE#7ENGLISHNO.5 160MM	CE/BIS	1
10	TCMETZENBAUMSCISSORSDELCVD 180MM	4 DIGIT CE	1
11	TCMETZENBAUMSCISSORSDELCVD 200MM	4 DIGIT CE	1
12	TCMETZENBAUMSCISSORSDELCVD 230MM	4 DIGIT CE	1
13	TCNELSON-METZSCISSCVD260MM	4 DIGIT CE	1
14	TCMETZENBAUMSCISSORSCVD 180MM	4 DIGIT CE	1
15	TCMETZSCISSBROAD-BLDCVD 230MM	4 DIGIT CE	1
16	TCMAYO-LEXER SCISSORSCVD 165MM	4 DIGIT CE	1
17	TCDE'BAKEYCVDUCTSCISS220MM	4 DIGIT CE	1
18	POTTS-SMITHVESSELSCISSORS60DG 175MM	4 DIGIT CE	1
19	SURGICALSCISSORSSTR S/B145MM	4 DIGIT CE	1
20	ALLIS FORCEPS5X6190MM	CE/BIS	4
21	ALLIS FORCEPS5X6155MM	CE/BIS	4
22	ALLISTISSUEFORCEPS220MM	CE/BIS	4
23	BABCOCKTISSUEFORCEPS175MM	CE/BIS	2
24	INTEST.FIX.FORCEPSBABCOCK 200MM	CE/BIS	4
25	KOCHERFORCEPSSTR1X2140MM	CE/BIS	4
26	KOCHER-OCHSNERFORCEPSSTR1X2 200MM	CE/BIS	2
27	TISSUEFORCEPSX-LRG145MM	4 DIGIT CE	1
28	WAUGHDELTISSUE FCPS 1X2145MM	4 DIGIT CE	2
29	WAUGHDEL.TISSUEFORCEPS1X2 200MM	4 DIGIT CE	2
30	WAUGHDEL.TISSUEFORCEPS 1X2250MM	4 DIGIT CE	2
31	DE'BAKEYATR.FCPS2.0MM STR150MM	4 DIGIT CE	2

32	DE'BAKEYATR.FCPS2.0MM STR240MM	4 DIGIT CE	2
33	DE'BAKEYATR.FCPS2.0MMSTR 200MM	4 DIGIT CE	2
34	HALSTED-MOSQUITOFCPSDELCVD 200MM	CE/BIS	2
35	GERALDTISSUEFCPSSTR1X2175MM	4 DIGIT CE	1
36	ROCHESTER-PEANFORCEPSSTR 200MM	CE/BIS	2
37	ROCHESTER-PEANFORCEPS CVD 200MM	CE/BIS	2
38	LERICHEDELICATEFORCEPSSTR 150MM	4 DIGIT CE	6
39	LERICHEDELICATEFORCEPSCVD 150MM	4 DIGIT CE	2
40	RANKINFCPSLONGKELLYDEL CVD160MM	4 DIGIT CE	6
41	HALSTED-MOSQUITOFORCEPSDEL CVD125MM	CE/BIS	10
42	HALSTEDDELICATEFORCEPSSTR. 185MM	4 DIGIT CE	2
43	LOWERGALLDUCTFORCEPS180MM	CE/BIS	2
44	MIKULICZPERITONEUMFORCEPS CVD.205MM	CE/BIS	6
45	OVERHOLT-GEISSSUTUREFCPS #1CVD205MM	CE/BIS	2
46	OVERHOLT-GEISSSUTUREFCPS #5CVD230MM	CE/BIS	2
47	MIXTERSUTUREFORCEPSRT-ANG 230MM	CE/BIS	2
48	MIXTER-O'SHAUGNESSYFORCEPS CVD190MM	CE/BIS	2
49	MIXTERSUTUREFORCEPSRT-ANG 230MM	CE/BIS	2
50	GEMINICLAMPRT-ANG200MM	4 DIGIT CE	1
51	GEMINICLAMP RT-ANG230MM	4 DIGIT CE	1
52	GEMINICLAMP RT-ANG280MM	4 DIGIT CE	1
53	DIETHRICHATR.AORTACLAMP 210MM	4 DIGIT CE	1
54	DIETHRICHATR.AORTACLAMP 210MM	4 DIGIT CE	1

55	OVERHOLT-GEISSSUTURE FCPS#1CVD260MM	4 DIGIT CE	1
56	DE'BAKEYTANGENTIAL CLMP1.38MM-WD220MM	4 DIGIT CE	1
57	DBAKYTNGENTALCLMP 2.48MM-WIDE265MM	4 DIGIT CE	1
58	DE'BAKEYTANGENTALCLMP 54/99/270MM	4 DIGIT CE	1
59	DE'BAKEY-RUMELSUTUREFORCEPS CVD245MM	4 DIGIT CE	1
60	ATR.OVUMFORCEPSSTRSM250MM	CE/BIS	1
61	CASPAREXPLOR.HOOKMED-TIP90DG 245MM	CE/BIS	1
62	DESCHAMPSSTEEPTURNLFT-HNDBLUNT225MM	CE/BIS	1
63	DESCHAMPSSTEEPTURNRT-HANDBLNT225MM	CE/BIS	1
64	TCCRILE-WOODNDLHLDRSTRSERR 145MM	4 DIGIT CE	1
65	TCCRILE-WOODNDLHLDRSTD SERR185MM	4 DIGIT CE	1
66	TCCRILE-WOODNDLHLDRSTDSERR 200MM	4 DIGIT CE	1
67	TCCRILE-WOODNEEDLEHOLDSTR 270MM	4 DIGIT CE	1
68	TCNEEDLEHOLDER X-DELSERR 180MM	4 DIGIT CE	1
69	TCNEEDLEHOLDER X-DELSERR 230MM	4 DIGIT CE	1
70	TCDE'BAKEYNDLHOLDERDELSERR 260MM	4 DIGIT CE	1
71	TCSTRATTE NDLHOLDER DBLLAT-ANG230MM	4 DIGIT CE	1
72	GUYONKIDNEYCLAMP230MM	4 DIGIT CE	1
73	GUYONATR.KIDNEYCLAMP240MM	4 DIGIT CE	2
74	GUYONATR.KIDNEYCLAMP230MM	4 DIGIT CE	1
75	KOCHER-LANGENBECKRETR 35X11MM215MM	CE/BIS	1
76	KOCHER-LANGENBECKRETR 41X11MM215MM	CE/BIS	1
77	ROUXRETRACTOR21X22/27X28MM 145MM	CE/BIS	1

78	ROUXRETRACTOR26X26/32X36MM 155MM	CE/BIS	1
79	ROUXRETRACTOR30X30/36X44MM 165MM	CE/BIS	1
80	CZERNYRETRACTOR38X22MM 175MM	CE/BIS	1
81	HAJEKHOOK	CE/BIS	1
82	VOLKMANNRETR4-PRGSEMI-S8.5X19220MM	CE/BIS	2
83	CUSHINGSADDLEHOOK14X11MM 250MM	CE/BIS	1
84	CUSHINGSADDLEHOOK 13X18MM 250MM	CE/BIS	1
85	FRITSCHABDOMINALRETRACTOR 46X75MM#4	CE/BIS	2
86	MIKULICZABDOMINALRETRACTOR 121X50MM	CE/BIS	1
87	MIKULICZABDOMINALRETRACTOR 86X55MM	CE/BIS	1
88	MIKULICZABDOMINALRETRACTOR 91X35MM	CE/BIS	1
89	HABERERRIBBONRETRACTOR 50/40MM305MM	CE/BIS	1
90	DEAVERRETRACTOR FIG1 25MM300MM	CE/BIS	1
91	DEAVERRETRACTORFIG225MM 315MM	CE/BIS	1
92	DEAVERRETRACTORFIG3 38MM300MM	CE/BIS	1
93	HARNGTNLNG SPATULAFLX175X64MM295MM	CE/BIS	1
94	HARNGTNLNG SPATULAFLX123X64MM295MM	CE/BIS	1
95	FINOCHIETTORIBSPREADER 65X65MMBLDS	CE/BIS	1
96	BALFOURABDOMINALRETRACTOR 200X255MM	CE/BIS	1
97	RANDALLKIDNEY-STONEFCPSHVY-CVD190MM	CE/BIS	1
98	RANDALLKIDNEY-STONE FORCEPSCVD190MM	CE/BIS	1
99	RANDALLKIDNEY-STONEFORCEPS CVD225MM	CE/BIS	1
100	RANDALLKIDNEY-STONEFRCPSSLT-CVD225MM	CE/BIS	1

101	LABORATORYDISH0.16 L	CE/BIS	1
102	LABORATORYDISH0.3 L	CE/BIS	1
103	KIDNEYTRAYSTAINLESSSTEEL 250MM	CE/BIS	1
104	KIDNEYTRAY 275MM 750ML	CE/BIS	1

RIBRESECTIONSET

1	DAVIDSONSCAPULARETR 90X80MM195MM	CE/BIS	1
2	BAILEYRIBSPREADER/CONTRACTOR 150MM	CE/BIS	1
3	RUSKINBONE-CUTTINGFORCEPS CVD190MM	CE/BIS	1
4	BOEHLERBONE-CUTTING FORCEPSSTR145MM	CE/BIS	1
5	ADSONCRANIALRONGEUR STR.200MM	CE/BIS	1
6	GIERTZ-STILLERIBSHEARS250MM	CE/BIS	1
7	GLUCKRIBSHEARS190MM	CE/BIS	1
8	FRYKHOLM BONERONGEUR240MM	CE/BIS	1
9	FARABEUFRASPATORYCVD.12.5MM BR.145MM	CE/BIS	1
10	COTTLEPERIOSTEALELEVATORCVD 195MM	CE/BIS	1
11	DOYENELEVATORF/ADULTLFT-CVD 175MM	CE/BIS	1
12	DOYENELEVATORF/ADULTRT-CVD 175MM	CE/BIS	1
13	RUSSIANTISSUEFORCEPS260MM	CE/BIS	1

SPECIALVASCULARSET(Donor) 4 DIGIT CE

1	TCMAYO-HEGARNDL HOLDERHVYSERR205MM	4 DIGIT CE	1

2	COOLEYPEDIATRICCLAMP108MM 260MM	4 DIGIT CE	1
3	GEMINICLAMP RT-ANG230MM	4 DIGIT CE	1
4	LAHEYFORCEPS LONG-SERR225MM	4 DIGIT CE	1
5	NELSON-METZENBAUMSCISSORS CVD230MM	4 DIGIT CE	1
6	TCMETZSCISSBROAD-BLDCVD 230MM	4 DIGIT CE	1
7	DE'BAKEYATR.BULLDOGCLAMP CVD.30/90MM	4 DIGIT CE	1
8	DE'BAKEYATR.BULLDOGCLAMP CVD.45/105MM	4 DIGIT CE	1
9	GEMINICLAMP RT-ANG230MM	4 DIGIT CE	1
10	DE'BAKEYATR.FCPS 2.0MMSTR 300MM	4 DIGIT CE	1
11	DE'BAKEYFCPSDEL1.5MM WIDE242MMLONG	4 DIGIT CE	1
12	DE'BAKEYATR.FCPS1.5MM STR200MM	4 DIGIT CE	2
13	DE'BAKEY-SATINSKYTANGENTIAL CLMP240MM	4 DIGIT CE	2
14	DE'BAKEY-SATINSKYTANGENTIAL CLMP235MM	4 DIGIT CE	2
15	DE'BAKEY-SATINSKYTANGENTIAL CLMP230MM	4 DIGIT CE	1
16	TCCRILE-WOODNDLHLDRSTDSERR 200MM	4 DIGIT CE	1
17	DE'BAKEYATR.FCPS2.0MMSTR 200MM	4 DIGIT CE	1
18	DE'BAKEYATR.FCPS1.5MM STR200MM	4 DIGIT CE	1
19	CRAFOORDDELICATEFORCEPSCVD 245MM	4 DIGIT CE	2

ONTABLEBENCHSURGICALSET

	PERFUSIONSET		
1	HALSTED-MOSQUITOFORCEPSDEL CVD125MM	CE/BIS	4
2	HALSTED-MOSQUITOFORCEPS DELSTR125MM	CE/BIS	2

3	DIADUSTMICROFORCEPSPLATEAU STR.150MM	CE/BIS	1
4	MICRO-SCISSORSRND-HDLSTR S/S145MM	4 DIGIT CE	1
5	DIADUSTMICRONEEDLEHOLDERRD HDL160MM	4 DIGIT CE	1
6	TCBABY-METZ SCISSORSDELSTRB/B145MM	4 DIGIT CE	1
7	TCBABY-METZ SCISSORSDELCVDB/B145MM	4 DIGIT CE	1
8	REYNOLDS SCISSORSDELCVDB/B145MM	4 DIGIT CE	1
9	ADSONFORCEPSSERR120MM	4 DIGIT CE	2
10	DE'BAKEYATR.FCPS2.0MM STR150MM	4 DIGIT CE	1
11	DE'BAKEYATR.FCPS2.0MMSTR 200MM	4 DIGIT CE	1
12	BOWMANPROBEDBL-END0.7MM/0.8MM130MM	CE/BIS	1
13	BOWMANPROBEDBL-END0.9MM/1.1MM130MM	CE/BIS	1
14	BOWMANPROBEDBL-END1.3MM/1.4MM130MM	CE/BIS	1
15	BOWMANPROBEDBL-END1.5MM/1.6MM130MM	CE/BIS	1
16	BOWMANPROBEDBL-END1.8MM/1.9MM130MM	CE/BIS	1
17	DE'BAKEYDILATOR MALL1.0MM 190MM	4 DIGIT CE	1
18	DE'BAKEYDILATOR MALL1.5MM 190MM	4 DIGIT CE	1
19	DE'BAKEYDILATOR MALL2.0MM 190MM	4 DIGIT CE	1
20	DE'BAKEYDILATORMALL2.5MM 190MM	4 DIGIT CE	1
21	DE'BAKEYDILATOR MALL3.0MM 190MM	4 DIGIT CE	1
22	DE'BAKEYDILATOR MALL3.5MM 190MM	4 DIGIT CE	1
23	DE'BAKEYDILATOR MALL4.0MM 190MM	4 DIGIT CE	1
24	DE'BAKEYDILATOR MALL4.5MM 190MM	4 DIGIT CE	1
25	DE'BAKEYDILATOR MALL5.0MM 190MM	4 DIGIT CE	1

26	DE'BAKEYDILATOR MALL7.0MM 190MM	4 DIGIT CE	1
27	CHISELANG 8MM 140MM	CE/BIS	1
28	COTTLEMALLETFLAT/RND 320GR.30MM185MM	CE/BIS	1
29	LABORATORYDISH0.3 L	CE/BIS	1
30	LABORATORYDISH0.16 L	CE/BIS	1
31	COOLEY VASC.TISS.FCPS1.5MM150MM	CE/BIS	1
32	COOLEYATRAFCPS2.0MM STR.200MM	4 DIGIT CE	1
33	SCALPELHANDLE#4 135MM	CE/BIS	1
34	KILNERSCISSORSSTRS/S 115MM	4 DIGIT CE	1
RECIPIENTSURGERYSET			
	KIDNEYSET		
1	FOERSTERSPONGEFCPSSERRSTR 245MM	CE/BIS	4
2	TCMAYO-HEGAR NDLHOLDERHVYSERR150MM	4 DIGIT CE	2
3	TCMAYO-HEGARNDL HOLDERHVYSERR185MM	4 DIGIT CE	2
4	TCHEGAR-MAYO NDL HOLDERHVYSERR235MM	4 DIGIT CE	2
5	TCMAYO-HEGARNDL HOLDERHVYSERR205MM	4 DIGIT CE	1
6	TCNEEDLEHOLDERX-DEL SERR200MM	4 DIGIT CE	1
7	GEMINICLAMPRT-ANG200MM	4 DIGIT CE	2
8	GEMINICLAMP RT-ANG280MM	4 DIGIT CE	2
9	BABY-MIXTERFORCEPSCVD140MM	CE/BIS	1
10	GEMINICLAMP RT-ANG180MM	4 DIGIT CE	2
11	GEMINICLAMP RT-ANG230MM	4 DIGIT CE	2
12	HARTMANNMOSQUITO FCPSDELCVD100MM	4 DIGIT CE	2
13	MICRO-HALSTEDFORCEPSDELCVD 125MM	4 DIGIT CE	2
14	HALSTED-MOSQUITOFORCEPSDEL CVD125MM	CE/BIS	12

15	SPENCER-WELLSFORCEPSCVD 175MM	CE/BIS	2
16	RANKINFCPSLONGKELLYDEL CVD160MM	CE/BIS	6
17	RANKINFCPSLONGKELLYDEL STR160MM	CE/BIS	2
18	ROCHESTER-PEANFORCEPSSTR 185MM	CE/BIS	2
19	ROCHESTER-PEANFORCEPS CVD 225MM	CE/BIS	4
20	ROCHESTER-PEANFORCEPSSTR 225MM	CE/BIS	2
21	KOCHER-OCHSNERFORCEPSCVD1X2 185MM	CE/BIS	2
22	KOCHER-OCHSNERFORCEPSCVD1X2 225MM	CE/BIS	2
23	ALLIS FORCEPS5X6155MM	CE/BIS	4
24	ALLIS FORCEPS5X6190MM	CE/BIS	2
25	BABCOCKATR.FORCEPS160MM	CE/BIS	2
26	BABCOCKATR.FORCEPS215MM	CE/BIS	2
27	DE'BAKEY-PEANATR.FRCPS STR.60MM200MM	4 DIGIT CE	2
28	GUYONATR.KIDNEYCLAMP230MM	4 DIGIT CE	2
29	WERTHEIM-CULLENCLAMP GROOVED215MM	CE/BIS	2
30	DE'BAKEY-SATINSKYTANGENTIAL CLMP230MM	4 DIGIT CE	2
31	GLOVERATR.BULLDOGCLAMP STR.25/68MM	4 DIGIT CE	2
32	BACKHAUSTOWELCLAMP 135MM	CE/BIS	6
33	SURGICALSCISSORSSTRS/B145MM	4 DIGIT CE	1
34	MAYOSCISSORSSTR170MM	4 DIGIT CE	1
35	MAYOSCISSORSCVD170MM	4 DIGIT CE	1
36	MAYO-HARRINGTONSCISSORSSTR 230MM	4 DIGIT CE	1
37	MAYO-HARRINGTONSCISSORSCVD 230MM	4 DIGIT CE	1
38	TCMETZENBAUMSCISSORSDELCVD 180MM	4 DIGIT CE	1

39	TCMETZENBAUMSCISSORSDEL STR200MM	4 DIGIT CE	2
40	KOCHER-LANGENBECKRETR 35X11MM215MM	CE/BIS	1
41	KOCHER-LANGENBECKRETR 41X11MM215MM	CE/BIS	1
42	ROUXRETRACTOR3/SET 165MM	CE/BIS	1
43	ROUXRETRACTOR21X22/27X28MM 145MM	CE/BIS	1
44	ROUXRETRACTOR26X26/32X36MM 155MM	CE/BIS	1
45	ROUXRETRACTOR30X30/36X44MM 165MM	CE/BIS	1
46	VOLKMANNRETR4-PRGSEMI-S8.5X19220MM	CE/BIS	2
47	CUSHINGVEINRETRACTOR10X13MM 205MM	CE/BIS	1
48	CUSHINGVEINRETRACTOR14X18MM 205MM	CE/BIS	1
49	MIKULICZABDOMINALRETRACTOR 121X50MM	CE/BIS	1
50	MIKULICZABDOMINALRETRACTOR 86X55MM	CE/BIS	1
51	MIKULICZABDOMINALRETRACTOR 91X35MM	CE/BIS	1
52	HABERERRIBBONRETRACTOR 50/40MM305MM	CE/BIS	1
53	DEAVERRETRACTORFIG1 25MM300MM	CE/BIS	1
54	DEAVERRETRACTORFIG225MM 315MM	CE/BIS	1
55	DEAVERRETRACTORFIG3 38MM300MM	CE/BIS	1
56	HARNGTNLNG SPATULAFLX175X64MM295MM	CE/BIS	1
57	HARNGTNLNG SPATULAFLX123X64MM295MM	CE/BIS	1
58	CZERNYRETRACTOR38X22MM 175MM	CE/BIS	2
59	CASTROMICROSCISSORSROUND HANDLE4.5IN 45DEGREEBLADES	4 DIGIT CE	5
60	MICROSCISSORSROUNDHANDLE5.5 INSTRAIIGHT	4 DIGIT CE	5
61	JOCOBSONMICROSCISSORSROUND HANDLE125DEGREEANGLE	CE/BIS	5

62	JOCOBSONMICROSCISSORS90 DEGREEANGLESHARP6.25 IN	CE/BIS	5
63	NERVEHOOK	CE/BIS	5
SPECIALVASCULARSET(RECIPIENT)			
1	TCCRILE-WOODNDLHLDRSTD SERR185MM	4 DIGIT CE	1
2	TCCRILE-WOODNDLHLDRSTD SERR200MM	4 DIGIT CE	1
3	TCCRILE-WOODNEEDLEHOLDSTR 270MM	4 DIGIT CE	1
4	TCRYDERNEEDLEHOLDERX-DELSERR210MM	4 DIGIT CE	1
5	GEMINICLAMP RT-ANG180MM	CE/BIS	2
6	GEMINICLAMP RT-ANG230MM	CE/BIS	1
7	TCMETZENBAUMSCISSORSDEL CVD180MM	4 DIGIT CE	1
8	TCMETZENBAUMSCISSORSDEL STR180MM	4 DIGIT CE	2
9	COOLEYPEDIATRICFORCEPS 24MM160MM	4 DIGIT CE	1
10	DE'BAKEYVESSELSCISSORS60DG 155MM	4 DIGIT CE	1
11	POTTS-DEMARTELSCISSORS 60DG 220MM	4 DIGIT CE	1
12	DE'BAKEYATR.BULLDOGCLAMP STR.25/80MM	4 DIGIT CE	1
13	DE'BAKEYATR.BULLDOGCLAMP STR.30/90MM	4 DIGIT CE	1
14	DE'BAKEYATR.BULLDOGCLAMP CVD.30/90MM	4 DIGIT CE	2
15	DE'BAKEYATR.BULLDOGCLAMP CVD.25/80MM	4 DIGIT CE	2
16	DE'BAKEYATR.BULLDOGCLAMP STR.45/105MM	4 DIGIT CE	2
17	DE'BAKEYATR.BULLDOGCLAMP CVD.45/105MM	4 DIGIT CE	2
18	MICROATR.BULLDOGCLAMP STR.10/50MM	4 DIGIT CE	1

19	MICROATR.BULLDOGCLAMP ANG.10/45MM	4 DIGIT CE	1
20	DE'BAKEYCLAMP60DG 55/85MM220MM	4 DIGIT CE	1
21	RIGHT-WEBERAORTACLAMP CVD260MM	4 DIGIT CE	1
22	LAHEY/SWEETGALLDUCTFORCEPS 200MM	CE/BIS	1
23	DE'BAKEYATR.FCPS1.5MM STR200MM	CE/BIS	1
24	COOLEYPEDIATRICFORCEPS 24MM160MM	4 DIGIT CE	1
25	DE'BAKEYATR.FCPS1.5MM STR150MM	4 DIGIT CE	2
26	DE'BAKEYATR.FCPS1.5MM STR200MM	4 DIGIT CE	1
27	DE'BAKEYFCPSDEL1.5MM WIDE242MMLONG	4 DIGIT CE	1
28	DIADUSTMICRORINGFORCEPS 1MM STR.210MM	4 DIGIT CE	1
29	DE'BAKEY-SATINSKYTANGENTIAL CLMP240MM	4 DIGIT CE	1
30	SATINSKYCLAMPHVY-CVD SM265MM	4 DIGIT CE	1
31	SATINSKYCLAMP265MM	4 DIGIT CE	1
32	BABY-SATINSKYCLAMP150MM	4 DIGIT CE	1
33	DE'BAKEY-SATINSKYTANGENTIAL CLMP230MM	4 DIGIT CE	1
34	DE'BAKEYATR.FCPS2.0MMSTR 200MM	4 DIGIT CE	1
35	DE'BAKEYATR.FCPS2.0MM STR240MM	4 DIGIT CE	1
36	GRAEFETISSUEFORCEPS110MM	4 DIGIT CE	1
37	AORTICPUNCHD:4.5MM140MM	4 DIGIT CE	2
38	DE'BAKEYTANGENTIAL CLMP1.38MM-WD220MM	4 DIGIT CE	1
39	#1PENFIELDDISSECTOR175MM	4 DIGIT CE	1
40	DE'BAKEYBULLDOGCLAMPRING-HDL90Â°105MM	4 DIGIT CE	2
41	DALEATR.CLAMPSPOONSIZE MEDIUM180MM	4 DIGIT CE	1

42	OCHSNER-DE'BAKEYATR.AORTA CLMP230MM	4 DIGIT CE	1
43	OCHSNER-DE'BAKEYATR.AORTA CLMP230MM	4 DIGIT CE	1
44	DE'BAKEY-SATINSKYTANGENTIAL CLMP235MM	4 DIGIT CE	1
45	DE'BAKEY-SATINSKYTANGENTIAL CLMP240MM	4 DIGIT CE	1
46	DIADUSTMICRONEEDLEHOLDER RDHDL160MM	4 DIGIT CE	1
47	DIADUSTMIC.NEEDLEHOLDER RD.HDL.210MM	4 DIGIT CE	1
48	TCDE'BAKEYNEEDLEHOLDER 150MM	4 DIGIT CE	1
49	TCDE'BAKEYNDLHOLDERDEL SERR180MM	4 DIGIT CE	1
	RETRACTORSET		
1	BALFOURABD RETRACTORW/BV609BV624TOT	CE/BIS	1
2	GOLIGHERABDOMINAL RETRACTORCPL.	CE/BIS	1
3	LEGUEUBLADDER SPATULA90X35MM260MM	CE/BIS	1
4	MILLIN BLADDERRETRACTOR COMPLETE	CE/BIS	1
5	KIRSCHNERFRAME275X355MM	CE/BIS	1
6	KIRSCHNERBLADE42X54MM	CE/BIS	2
7	KIRSCHNERBLADE64X80MM	CE/BIS	2
8	KIRSCHNERBLADE78X82MM	CE/BIS	2
9	KIRSCHNERBLADE91X55MM	CE/BIS	2
10	KIRSCHNERBLADE107X42MM	CE/BIS	2
11	OMNI-TRACT SURGICALRETRACTIONSYSTEM WITH BLADES	CE/BIS	1
12	FINOCHIETORIBRETRACTOR LARGEWITHBLADES	CE/BIS	2
13	FINOCHIETORIBRETRACTOR MEDIUMWITHBLADES	CE/BIS	2

MICROSURGICALAVFISTULASET

1	MAIERFORCEPSW/RCHTCVD260MM	CE/BIS	2
2	BACKHAUSTOWELCLAMP 110MM	CE/BIS	4
3	TOWELCLAMP FORPAPER CLOTHS 115MM	CE/BIS	2
4	SCALPELHANDLE#3 125MM	CE/BIS	2
5	METZENBAUMSCISSORSCVD145MM	4 DIGIT CE	1
6	IRISSCISSORSSTR.S/S110MM	CE/BIS	1
7	LAGRANGESCISSORSSERR115MM	4 DIGIT CE	1
8	JAMESON-WERBERTENOTOMY SCISSCVD130MM	CE/BIS	1
9	SURGICALSCISSORSSTRS/B145MM	CE/BIS	1
10	ADSONTISSUEFCPSFINEW/1X2T 150MM	CE/BIS	2
11	DE'BAKEYATR.FCPS1.5MM STR150MM	CE/BIS	2
12	ULTRA-LIGHTFORCEPS1.2MM150MM	CE/BIS	1
13	MICROFORCEPSSTRSMOOTH 100MM	CE/BIS	2
14	MICRO-HALSTEDFORCEPSDELCVD 125MM	CE/BIS	4
15	HALSTED-MOSQUITOFORCEPS DELSTR125MM	CE/BIS	2
16	PEANARTERYFORCEPSSTR.125MM	CE/BIS	2
17	MICRO-ADSONFORCEPSSERR 150MM	CE/BIS	2
18	BABY-MIXTERFORCEPSCVD140MM		1
19	MINI-BULLDOGCLAMPSTR.14/35MM	4 DIGIT CE	2
20	MICROATR.BULLDOGCLAMP ANG.10/45MM	4 DIGIT CE	2
21	MUELLERMICRO-VESSEL CLMPSTR50G-FORCE	4 DIGIT CE	2
22	MUELLERMICRO-VESSEL CLMPCVD50G-FORCE	4 DIGIT CE	2
23	MICRONEEDLEHOLDERW/O CATCHCVD160MM	4 DIGIT CE	1

24	TCRYDERNEEDLEHOLDERX-DELSERR135MM	CANCEL	1
25	TCCRILE-WOODNDLHLDRSTRSERR 145MM	CANCEL	1
26	VOLKMANNRETR3-PRGBLUNT8X13MM220MM	CANCEL	2
27	DESMARRESRETRACTOR 11X14MM140MM	CANCEL	1
28	DESMARRESRETRACTOR12X16MM 140MM	CANCEL	1
29	WEITLANERRETRACTOR2X3SEMI-S110MM	CANCEL	1
30	DE'BAKEYDILATOR MALL1.0MM 190MM	CANCEL	1
31	DE'BAKEYDILATOR MALL1.5MM 190MM	CANCEL	1
32	DE'BAKEYDILATOR MALL2.5MM 190MM	CANCEL	1
33	DE'BAKEYDILATOR MALL3.0MM 190MM	CANCEL	1
34	DE'BAKEYDILATOR MALL3.5MM 190MM	CANCEL	1
35	DE'BAKEYDILATOR MALL4.0MM 190MM	CANCEL	1
36	DE'BAKEYDILATOR MALL4.5MM 190MM	CANCEL	1
37	DE'BAKEYDILATOR MALL5.0MM 190MM	CANCEL	1
38	DE'BAKEYDILATOR MALL7.0MM 190MM	CANCEL	1
39	DE'BAKEYDILATOR MALL9.0MM 190MM	CANCEL	1
40	LABORATORYDISH0.16 L	CE/BIS	1
42	KIDNEYTRAYSTAINLESSSTEEL 250MM	CE/BIS	1
	MAINTENANCEOFSURGICALINSTRUMENTS		
1	STERILITIOILSPRAY		2
	[Packof6Bottles]	CE/BIS	Packs

Note:-

The bidder must quote all the items/ instruments-make and each instrument cost should be mentioned in details.

All the instrument should be made up of German SS 304 Medical Grade.

All instrument should be CE/US FDA/BIS Certified and to be indicated on each instrument.

One Year Replacement Warranty for any manufacturing defects and corrosion.

3.Operating Cystoscope- Paediatric

1. Angled operating cystoscope 7 - 9.5 F tip, 5/6/7 degree, 13 – 16.6 cm long, diameter 7 - 9.5 F (tip) to 9 - 11F (Proximal Shaft)
2. Ports

a. 2 Lateral irrigation ports

b. Working channel of 6F for 5F instruments

3. Light transmission facility
4. Instrument port sealing system & seal
5. The rate for the following accessories needs to be offered separately and will be taken for evaluation.

a. 5F Grasping forceps for stone fragments, 25-30 cm long, double action jaw

b. 5F Biopsy forceps for larger stones 25- 30 cm long

c. Monopolar hook electrode : 3F : pack of 6

d. Button electrode : Monopolar 3F

e. Knife : Triangular tip 3F

6. All items should be from same manufacturer

4.Nephtoscope (19.5 Fr)	**Required Type**
1. Nephroscope set for MIP L size not more than 19.5 2. Consisting of seal 10 NO, insertion Aid 3. Dilator for MIPL (Single step dilation) 4. Operating Sheath, 23/24/25 Fr 5. Fenestrated jaw and U shaped handle 6. Grasping Forceps Fenestrated Jaw and Ring Handle – 1 No 7. Grasping Forceps Serrated Jaw and Ring Handle – 1 No 8. Suitable plastic Container/wired tray for sterilization 9. All instruments should have safety certificate from a competent authority CE issued by a notified body registered in European Commission/FDA (US). Copy of the certificate shall be produced along with the technical bid	**4 Digit CE**

5.Ureteroscope – Paediatric

1. The ureteroscope should have a distal tip of 4 Fr and with suitable length.
2. Suitable working channel for accommodating a full range of operating instruments for therapeutic
applications.
3. Fibre optic light transmission incorporated.
4. Should have optic image with sharp clear image of high resolution and clarity.
5. Should supply with Urethral dialators (Filliform dilators)-3nos and SPC TROCARS 16Fr,18 Fr
each -3nos.
6. Should supply with standard accessories with seals and clean brushes

6.Ureteroscope – Adult (this item has indented in phase I only distal tip of which is a consumable along with Urethroscope)

1. The ureteroscope should have a distal tip of 7.5 Fr – 9 Fr and length of 40-45cm.
2. At least 3.5 Fr working channel for accommodating a full range of operating instruments for therapeutic applications.
3. Fibre optic light transmission incorporated.
4. Should have optic image with sharp clear image of high resolution and clarity.
5. Should supply with Urethral dialators (Filiform dilators)-3nos and SPC TROCARS 16Fr,18 Fr each -3nos.
6. Should supply with standard accessories with seals and clean brushes.
7. The quoted model should have US FDA/CE Notified Body/ BIS certified.
8. The manufacture should have ISO 13485 Certified.
9. 3 Years Warranty and 4 CMC to be provided.