

## **Technical Specifications and Scope of Work:**

PURCHASE OF Ultrasound Machines:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

ULTRASOUND MACHINE WITH 3 PROBES:

1. The units should be latest state of the art digital color Doppler with broadband beam forming for Abdominal Vascular, Obs, & Gynae Cardiac, Pediatric, Musculoskeletal, and small parts application. The models with following (or higher) specifications need to be quoted.
2. The machines should be USA FDA and European CE certified and should be latest in Technology and launched in 2016 or later. The manufacturing company should be ISO certified.
3. They should have at least 750000 digital processing channels for high –resolution imaging.
4. Imaging Modes : 2D, M- Mode, Color Flow Imaging, Pulse Doppler, Power Doppler, Continuous Wave Doppler and Directional Color Flow Mapping
6. The Machines should have facility for simultaneous dual/ duplex/ triplex mode display
7. Tissue harmonic imaging should be available on Convex, Linear, and Endocavity transducers.
9. Machines should be capable of advanced real time compound imaging.
10. The machines should have facility for real time fetal echocardiography with frame rate increasing technology to capture the fast beating fetal heart.
11. Machine should have integrated gel warmer with temperature level settings.
12. High dynamic range of 250 dB or more.
13. The machines should have 256 Grey shades (8 bit) or more.
14. One touch image optimization should be available in 2 D mode with one button automatic adjustment of TGC and receiver gain and compression curve based on the range of detectable tissue signals.
15. There should be one button automatic adjustment of Doppler PRF, baseline, dynamic range and gain in Doppler mode.
16. Pulsed wave Doppler should be available on all imaging transducers with adjustable sample volume size, simultaneous or duplex mode of operation, simultaneous, 2D, Colour Doppler, pulsed Doppler, Continuous Wave Doppler, high PRF capability in all modes including duplex and triplex and automatic adjustment of scale and baseline. The system should have option to adjust the color flow mode for high or low flows in one touch.
17. Machines should support broad band/ wide band high density probes spanning with frequency range from 1 - 20 MHz (+/- 1 MHz). The system should support latest technology single crystal probe or Matrix Array Probes for better resolution and penetration.
18. Automatic Doppler analysis should be available with automatic real time calculation of at least six of following user selectable parameters peak systolic velocity end diastolic velocity, mean diastolic velocity, volume flow, time average mean velocity, time average peak velocity, resistive index, pulsatility index, systolic/ diastolic ratio, acceleration/ deceleration times.
19. The machine should have up to 500000 images storing facility and cine loop review facility with memory up to minimum of 25,000 frames
20. The machines should have facility of direct storage and retrieval of B/W and color images (both frozen and cine loop) in the inbuilt hard disk drive. In built hard disk storage should be equal to or more than 1TB and Solid State Device in addition with capacity 120GB.
21. The machines should support four or more transducers with universal ports allowing any transducer to be connected to any port.
22. Machines should have a high resolution fully articulating non-interlaced flicker free, anti-glare LED display of 21 inches or more with resolution 1,600 x 900 or better.
23. The system should have image enhancement options like speckle reduction, Spatial compounding and filtered tissue harmonics. The system should have adaptive blending color to maintain the 2D resolution while working in color mode.
24. The system should offer advanced comprehensive measurement package for easy workflow and throughput.
25. Zoom facility (up to 8 times or more magnification) with high resolution results and pan capacity in both real time and frozen images.
26. The system should have CD-DVD and USB archival (DICOM and PC format). There should be 4 or more USB ports.
27. Machine should be offered with the following broadband probes
  - (i) Convex Transducer with frequency ranging 1.0 -6.0MHz (+/- 1.0MHz) for abdominal imaging
  - (ii) Linear Transducer with frequency ranging 3.0-12.0 MHz (+/- 1.0MHz) or better, FOV 38mm or better for vascular access, small parts, vascular, musculoskeletal, Supraclavicular, Auxiliary, Musculocutaneous imaging.
  - (iii) Endocavity Transducer with frequency ranging 3.0-10.0 MHz (+/- 1.0MHz) and 142 deg FOV
  - (iv) Adult Phased Array Transducer with frequency ranging 1.0 - 5.0MHz (+/- 1.0MHz) – To be quoted optionally

2) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it: "Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL, Hyderabad."

3) The approximate prices are inclusive of GST

4) AMC Services should also be provided.

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT, GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500051

#### PORTABLE ULTRA SOUND MACHINE WITH 3 PROBES.

1. Fully digital portable ultrasound machine with provision for Doppler examinations.
  2. The unit should have a laptop type console design. The unit should be compact, lightweight and portable. Weight should not exceed 7kg including battery (excluding cart and accessories).
  3. It should be suitable for abdominal, small parts and vascular applications in adults and paediatric patients. Multiple preloaded as well as user configurable application presets should be available.
  4. Minimum grey scale resolution to be 256 with 90,000 or more digital processing channels.
  5. Maximum scanning depth to be 30 cm or more.
  6. The system to have a dynamic range of 180 decibels or more
  7. The system should support Convex and Linear probes.
  8. Transducers (one each):
    - (a) Convex transducer: 1- 6 MHz for abdominal imaging.
    - (b) Linear transducer: 3-12MHz MHz for vascular and small part imaging.
    - (c) Endocavity transducer: 3-10MHz MHz for gynaec and urology imaging
  9. All transducers should be lightweight digital phased array broadband type transducers with at least 1024 elements.
  10. The system should have a frame rate of at least 500 frames per second
  11. (fps) in B mode and more than 30 fps in /Colour mode.
  12. The system should have an ergonomic full alphanumeric soft keys keyboard with easy access scans controls and trackball. Provision for attaching an external keyboard and mouse should be present.
  13. The System must have integrated high – resolution TFT/LED/LCD/Single monitor of 15 Inches or more
  14. The system should have cine loop review facility of not less than 250 sec/2000 frames.
  15. System should have 120 GB or higher capacity internal SDD
  16. The system should have the facility of digital storage and retrieval of B/W and colour image data on built-in CD/DVD Drive. Provision for USB port and LAN transfer of data should also be present.
  17. Imaging modes of Real time 2D, Colour Doppler, Pulsed wave Doppler and
  18. Power (energy) Doppler should be available.
  19. Controls for 2D mode: Total gain, depth, TCG, dynamic range, acoustic power output.
  20. Controls for Colour Doppler: PRF, colour gain, position and size of ROI, steering of ROI, colour maps and colour invert.
  21. Controls for pulsed Doppler: variable sample volume size from 1 to 5mm or more, steer, PRF, baseline, gain angle correction, spectral invert, duplex on/off.
  22. Measurements for 2D mode: Multiple distances, area and volume.
  23. Measurements for Doppler modes: Stenosis quantification in area percentage, diameter, PSV, EDV, mean, PI, RI, acceleration time and index. Automatic and manual measurements and display of pulsed Doppler calculations should be possible.
  24. Facility for storage on CDR should be available.
  25. Unit should function with 200-240 V, 50 Hz AC, 5 amp power out let. Power requirement to be specified.
  26. In built battery backup should be at least one hour or more.
  27. Essential accessories: Black & White Thermal printer and color laser printer, UPS, mobile cart with transducer holder, jelly bottle holder and space for printer.
  28. Paper and cartridges for 1000 image printouts should be provided with the unit.
  29. The unit offered must be sturdy and should be able to withstand accidental hits and falls during transportation.
  30. The unit offered in the tender will require technical demonstration.
  31. The bidder should enclose the original product data sheet, brochure and compliance sheet, without which Tender will not be accepted
- Portable Ultrasound Scanner with Doppler Function
32. The unit should be United States Food and Drug Administration (FDA) and Conformité Européenne (CE) approved

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5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL,  
MEDCHAL-MALKAJIRI DISTRICT, GHATKESAR-501301

## **Technical Specifications and Scope of Work:**

### PURCHASE OF LAB EQUIPMENTS:

#### SEMI-AUTOMATED LABORATORY ANALYZER FOR BLOOD TESTING

##### 1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

1. Calibration: Up to 10 calibration points;
2. Memory; 250-300 programmable slots, 3500-5000 test results;
3. Battery: 14.8V/5.7AH (Atleast 45 minutes battery backup);
4. Interface: 2 USB slots, Ethernet;
5. Photometric Module: 6 interference filters: 340, 405, 505, 546, 578, 630nm;
6. Bandwidth: +/- 5nm;
7. Photometry range: 0 to 3.5 O.D
8. Analysis Mode: 1-point & 2-point linear and non linear, 1-point sample blank linear and non linear;
9. Reports Printing Facility; Display: 6-8" capacitive touch screen;
10. Measuring Module: 18 uL flow cell volume with 10mm light path;
11. Axis: Linear and log;
12. Result Recall Facility;

2) The Machine should carry with it warranty.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it: "Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL, Hyderabad"

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#### CELL COUNTER/HEMATOLOGY ANALYZER

##### 1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

- 1) Atleast the following Parameters to be tested: WBC, RBC, HGB, HCT, MCV, MCH, MCHC, PLT, LY%, MO%, GR%, LY, MO, GR, RDW, PCT, MPV, PDW.
- 2) Reagents: 1 hemolyzing reagent (Cyanide free), 1 diluent, 2 detergent.;
- 3) Sample Volume- Normal mode: 30 uL; Pre-dilution mode: 10 uL or 20 uL.;
- 4) Throughput: Approx. 60 s/sample from measurement start to data display;
- 5) Data security by password protection.;
- 6) Touch screen with 5-6".
- 7) Different report formats to be shown on the same screen.;
- 8) 10 or 20µL blood measurement should be available in pre-dilution mode, capillary and High mode.;
- 9) 30µL is required for normal measurement.
- 10) Electric Clogs Should be removed Automatically.
- 11) Minimum Storage of 300-500 samples.

2) The Machine should carry with it warranty .

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## CENTRIFUGE FOR LABORATORY

### 1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

1. Type: Swingout Rotor Head
2. No. of Tubes: 08
3. Speed RPM: > 4400 RPM
4. Digital Speed Indicator with countdown timer.
5. Safety Lid Interlock to prevent cover opening during centrifugation

2) The Machine should carry with it warranty .

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## **Technical Specifications and Scope of Work:**

### BLOOD BAG WEIGHING MACHINE

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

Micro-controller-based Blood Bank Weighing Scale;

1. Display-LCD;
2. Accuracy: Upto 1gm/1ml;
3. Calibration- Auto;
4. Transducer- Load Cell;
5. Power Supply- 12 VDC Adaptor;
6. Feet Adjustable;
7. Weighing Capacity- Upto 2 KG;

2) The Machine should carry with it warranty .

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## **Technical Specifications and Scope of Work:**

PURCHASE OF ANESTHESIA WORKSTATION WITH SINGLE VAPORIZER FOR ICU/OPERATION THEATRE:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

Anaesthesia Workstation complete with Anaesthesia gas delivery system, Vaporiser, Circle absorber system with built in Anaesthesia ventilator

### GENERAL SPECIFICATIONS

1. Should have provision for delivery of Oxygen, Nitrous oxide and medical Air
2. The machine should be capable of delivering Low flow anaesthesia.
3. The anaesthesia machine with circle absorber, Ventilator and Vaporiser should be from same manufacturer and should be CE approved.
4. Should have independent attachments for connecting central gas supply and pin indexed cylinders.
5. Should have Non Interchangeable pipeline hose inlet connection to pipelines for medical Oxygen, Nitrous Oxide, and medical AIR
6. Should have large size pressure gauges, for easy visibility, colour coded, two each for Oxygen and Nitrous oxide; One for AIR
7. Anaesthesia machine frame shall be manufactured in strong but lightweight material.
8. The machine shall have a maximum of four castors/wheels for manoeuvrability with front two castors having brakes
9. Should have minimum two non-lockable and spacious drawers for storing accessories
10. The frame shall have GCX compatible channels incorporated for mounting other accessories.
11. The option for an integrated independent Oxygen flow meter for Oxygen delivery is mandatory.
12. Frame shall accommodate up to two backup cylinders one each for Oxygen and Nitrous Oxide
13. On activation of the system on/off switch gas flow and vaporization shall immediately be available
14. Should have selector switch for selecting Open and Close circuit operation
15. The common gas outlet shall be mounted at the front of the machine (not rear or side) in order to be easily accessible in the event of an emergency and for use of alternate breathing circuits
16. The option for illumination of the writing table/work surface is mandatory
17. The frame should have integrated power outlets to supply a minimum of three external devices
18. Should have Top shelf, Manoeuvring handle and foot rest
19. Machine should have table top work space to keep drugs.
20. The unit should have a battery back-up facility for the ventilator in the event of power loss. Minimum 90 minutes battery backup required.
21. Input Power : 100 – 240 VAC

### Gas Flow

- 1) Antistatic and Cascaded dual flow tubes should be available for all gases (O<sub>2</sub>, N<sub>2</sub>O & AIR) to allow suitable resolution and accurate control at low total fresh gas flows.
  - 2) The flow range shall be 150ml-10 lpm
  - 3) Should have N<sub>2</sub>O cut off facility if O<sub>2</sub> supply fails.
  - 4) Should have Oxygen failure alarm both Visual and Audible.
  - 5) Should have Oxygen Flush facility bypassing Vaporiser. O<sub>2</sub> flush switch should be conveniently placed for easy accessibility. O<sub>2</sub> flush switch should be non lockable.
  - 6) The unit shall have a mechanical Anti-Hypoxic Device (AHD) system to control the ratio of Oxygen and Nitrous oxide. A completely mechanical AHD system, that requires no electricity, is mandatory
  - 7) The mechanical AHD system must limit minimum Oxygen levels to approximately 25%
  - 8) Should have minimum mandatory Oxygen flow of 100 ml when switched on
  - 9) It shall be possible to deliver Air with only basal flow oxygen independent of the abovementioned hypoxic control.
  - 10) Gas flow shall be controlled mechanically only
  - 11) Visual display of individual gas flows is mandatory, this shall be by physical means such as glass flowmeters independent of electrical power
  - 12) Flow meters should have the option of backlight illumination
  - 13) In the event of complete power loss and battery failure it shall still be possible to set the fresh gas flow accurately for each gas, manually ventilate (with bag) and continue to keep the patient anaesthetized.
- Vaporizers
- 1) The unit should accommodate at least two vaporizers for Anesthetic agent delivery.
  - 2) The manifold should only accept Vaporizers with approved Back bar connections and prevent usage of more than one vaporizer simultaneously. Preferably selectatec compatible back bar.
  - 3) Vaporizers supplied with the unit shall be routine maintenance free for the life of the product
  - 4) Vaporizers supplied with the unit shall be manufactured from lightweight materials to aid in fitting & removal

5) Should have an operating flow range of 0.2 – 15 L/min and nominal capacity 250 ml Ventilator

- 1) Ventilator shall cater for a diverse range of patient groups from neonates to adult patients with restrictive airways
- 2) Ventilator should be Pneumatically driven and controlled electronically
- 3) Ventilator shall have a large 8.4" colour TFT display, for exclusive use of ventilator control and monitoring.
- 4) Control of the ventilator user interface shall be by touch screen and rotary dial
- 5) Ventilator shall have the following ventilation abilities, volume control (VCV), Pressure Control ventilation (PCV), SIMV-V and SIMV-P, Spont/Pressure Support Ventilation with apnoea backup (PSV), Manual
- 6) Assisted modes of breathing shall be flow triggered.
- 7) On power up, in the case of an emergency mechanical ventilation shall be available without the need to carry out user or machine self-checks
- 8) Ventilator shall compensate for fresh gas flow and compliance of the entire circuit.
- 9) Should have user adjustable alarms for major parameters such as Tidal Volume, Minute Volume, FiO<sub>2</sub>, Airway Pressure, Frequency,
- 10) Apnea alarms must be user adjustable to allow for all operating conditions and phases during Anesthesia
- 11) Ventilator should have the ability to display Patient Spirometry loop.
- 12) Ventilator should also display waveforms for Flow, Volume and Airway Pressure
- 13) Ventilator shall display Compliance and Resistance measurement
- 14) Volume measurement shall be by separate flow sensors for inspiratory & expiratory breathing paths
- 15) The volume measurement flow sensors/transducers shall be housed completely within the breathing system absorber & not remoted via tubes or channels
- 16) Volume measurement sensors should not be disposable type.

#### Ventilator Parameters

- A. Tidal Volume : 10ml-1600 ml
- B. Frequency: 4-100 bpm
- C. I:E Ratio: 4:1 to 1:10
- D. Inspiratory Pause: 0-60% of T<sub>i</sub>
- E. PEEP: OFF, 3-30 cmH<sub>2</sub>O
- F. Pressure Limit : 5-70 cmH<sub>2</sub>O
- G. Minute Volume: 0.5 to 60 lpm

#### Breathing System

1. The breathing system designed so that it can be removed & replaced as a complete unit without the use of tools
  2. All parts of the breathing system that are in contact with patient gas shall be latex free and Autoclavable except for non autoclavable removable part like O<sub>2</sub> sensor and Pressure manometer.
  3. Bag/Vent switch shall be integrated on the absorber and should activate ventilator in vent mode and vice versa (One step operation).
  4. Breathing system should have heater system to avoid water condensation.
  5. Should have quick release canister for sodalime, capacity minimum 1.5 litre
  6. The breathing system absorber canisters shall have a bypass system to allow for canister change mid-case without loss of ventilation pressure. The requirement for an automatic bypass without extra input from the user is mandatory
  7. The ventilator bellows shall be clearly visible and be of upright design. The bellows should ascend on expiration to provide a quick visual indicator for assisted breathing, spontaneous breathing and system leaks.
  8. Same bellows shall be used for Adult and Pediatric application
  9. Should have provision for FiO<sub>2</sub> monitoring cell and FiO<sub>2</sub> value should be monitored on the main screen.
  10. A bag arm with positional adjustment shall be available as standard
- Optional
1. An option for integrated Sidestream CO<sub>2</sub> monitoring is Mandatory
  2. An option for integrated SpO<sub>2</sub> monitoring is Mandatory
  3. Central Brake
  4. Vaporiser of customer choice
  5. Suction

2) The Machine should carry with it warranty and AMC facility.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it: "Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL, Hyderabad"



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## **Technical Specifications and Scope of Work:**

PURCHASE OF OXYGEN CYLINDERS:

B-TYPE OXYGEN CYLINDERS SHALL BE OF FOLLOWING SPECIFICATIONS:

Material: Stainless Steel/Alluminium OR MEDICALLY CERTIFIED MATERIAL AVAILABLE IN THE MARKET .

1. Capacity: 10 Litres and above;
2. Working Pressure: 150Kgf/CM<sup>2</sup> ;
3. Hydrostatic Test Pressure:250 Bar;
4. Valve Type: Bull Nose.
5. Black with White Neck cylinder color.
6. IS-7285:2018 Standard.

2) CYLINDERS SUPPLIED SHOULD BE COVERED UNDER WARRANTY.

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A-TYPE OXYGEN CYLINDERS SHALL BE OF FOLLOWING SPECIFICATIONS:

Material: Stainless Steel/Alluminium OR MEDICALLY CERTIFIED MATERIAL AVAILABLE IN THE MARKET .

1. Material: Stainless Steel/Alluminium;
2. Capacity: 5 Lt Water capacity;
3. Working pressure (Max): 150kgf/cm<sup>2</sup> at 15o c
4. Test Pressure (Max): 250kg/cm<sup>2</sup> at 15o c;
5. Wall thickness ; 4.2 mm;
6. Standard : IS-7285 Part II;
7. Valve: IS-3745.

2) CYLINDERS SUPPLIED SHOULD BE COVERED UNDER WARRANTY.

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## **Technical Specifications and Scope of Work:**

PURCHASE OF OPERATION THEATRE LIGHTING SYSTEM:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

Mobile LED OT Medical Lights

1. Light Source: LED;
2. Number of Domes: 01;
3. Mobile Positioning;
4. Intensity: 80000 to 90000 Lux  $\pm$  10%;
5. Size of light field: 12 - 35 cm;
6. Led Life: 50000 Hrs;
7. Number of LEDs: 60-70 (Multiple Colour);
8. Brightness Control Capacitive Touch Controller;
9. Power Supply: 220 v/ 50 Hz AC; Focusing Adjustable;
10. Optional Battery Backup

2) The Machine should carry with it warranty and AMC facility.

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## **Technical Specifications and Scope of Work:**

PURCHASE OF WATER PURIFIER PLANT:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

- 1) Type of water Purifying Technology: RO+UV;
- 2) sediment and activated carbon filter;
- 3) Fully automatic with auto cut off;
- 4) UV Lamp;
- 5) UV System: IS 14724 Compliant;
- 6) O/P Water conforming to IS 10500 Latest;
- 7) Filtration Capacity: 1000Ltrs /hour;
- 8) Digital Display;
- 9) Body of filter: MS Powder coated;
- 10) No.of candles:02;
- 11) Power Supply:415V 3-Phase;
- 12) Floor mounted;
- 13) Warranty: Minimum 3 years;
- 14) Micron Filter;
- 15) Minimum & Maximum Inlet Pressure: 1KG/Cm<sup>2</sup> & 3.5 KG/CM<sup>2</sup>
- 16) Water Tank of atleast 100 to 200 ltrs capacity-Stainless steel or Food/Water grade fibre

2) The Machine should carry with it warranty and AMC facility.

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## **Technical Specifications and Scope of Work:**

PURCHASE OF GENERATOR-80KVA:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

- A) Power (kVA)-80 kVA;
- B) Phase-3 Phase;
- C) Output Voltage (V)-415 V;
- D) Frequency (Hz)-50 Hz;
- E) Fuel Tank Capacity (In Ltrs.)- 250-350 Ltrs;
- F) Compression Ratio- 17.2:1/18:1;
- G) Displacement (l): 3.9L to 4.8 L;
- H) Engine -- Cooling System- Radiator/Liquid Cooled;
- I) Number of Cylinder (Nos)- 4;
- J) Bore X Stroke: 102X120 or 106 X 135 mm;
- K) Engine Power (hp): 90-110 hp;
- L) Power Factor:0.8-1.2 (lagging);
- M) Alternator- Insulation: Class H;
- N) Voltage Regulation-+/- 1%;
- O) Starting System:12 V DC Electrical;

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## **Technical Specifications and Scope of Work:**

PURCHASE OF MULTI-PARA MONITORS FOR OT THEATRE:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

Suitable for Usage in Operation Room and ICU Capable of monitoring, ECG, SPO<sub>2</sub>, Non Invasive Blood Pressure (NiBP), Respiration Rate and Temperature and Sidstream ETCO<sub>2</sub>. Monitor should have facility to upgrade to IBP, AGM, Non-invasive cardiac output.

1. Should have large color display of 12 inch screen
2. Device should be compact, portable and light-weight
3. Should display 10 waveforms or more
4. Waveforms channels should be user selectable
5. Should be capable of displaying waveforms and numeric values simultaneously
6. User Selectable color for waveforms
7. Should have various selectable display modes like Big Font, Oxy CRG, Short Trend, NiBP Review, 7-Lead ECG and Bed-Bed View
8. Should be able to monitor ECG, SpO<sub>2</sub>, NiBP, Respiration and Temperature.
9. Monitor should have facility to upgrade to AGM, Non-invasive cardiac output.

ECG:

1. Should be able to monitor ECG through 5-Lead Patient Cable
2. Should be able to display Lead I,II,III, aVR, aVL, aVF and one of the chest leads
3. Should be able to monitor Heart Rate from 15-350 bpm
4. Should have an interface for displaying all the ECG Leads Monitored
5. Should have user selectable modes like Monitor, Surgery and Diagnostic for operation in ICU, OT's etc
6. Should have pacemaker detection facility
7. Should have arrhythmia detection

SPO<sub>2</sub>:

1. Should use Masimo technology for monitor SpO<sub>2</sub>
2. Should display the numeric value and plethysmograph as well
3. Should display the value from 1-100%

TEMPERATURE:

1. Should be able to monitor dual temperature values
2. Should display the rectal as well as skin temperature
3. Should also display the difference between these values

NiBP:

1. Should follow the automatic oscillometric method for measurement of Nibp
2. Should have cuffs for adult, pediatric and neonatal patients
3. Should have a measuring range of 0-300 mmHg
4. Should have auto, manual and stat modes of operation

RESPIRATION

1. Should display numeric values and respiration waveform as well
2. Should have the option for selection of lead for monitoring Respiration
3. Should have apnea detection facility
4. Should have upto 120 seconds for apnea detection

ETCO<sub>2</sub>

- 1) Should have Sidestream ETCO<sub>2</sub> monitoring
- 2) Should have alarm settings for all parameters
- 3) Should have color coded alarms for different priority of alarms
- 4) Should have audio and visual alarms
- 5) Should have separate volume control and QRS Beep Volume
- 6) Should have short-cut keys for freeze, Nibp, Alarm Mute
- 7) Should have navigator wheel for easy selection of parameters

- 8) Should have drug dose and OxyCrg Interfaces
- 9) Should have Heart Rate Variability interface for providing with beat-beat analysis of patient heart rate
- 10) Should be portable and handle should be provided
- 11) Should have the following data storage interfaces:
- 12) Should have a maximum of 168 Hours of Trend Data storage
- 13) Should be able store 1000-1800 alarm events
- 14) Should have 750-1000 NiBp Measurement values storage option
- 15) Should have lead acid battery with provision for adding a second battery
- 16) Should work on 220V, 50 Hz supply
- 17) Should have CNS connectivity
- 18) Machine should be European CE certified
- 19) Manufacturer should conform to ISO Standards 13485:2016
- 20) The device should be provided with all the accessories for the parameters provided

Should Provide following Accessories as Standard :

- 1) ECG Patient Cable (5 Lead) – 1 no.
- 2) Disposable electrodes – 1 Bag.
- 3) NIBP Cuff – 3 size.
- 4) Temperature probe – 1 no.
- 5) Masimo SPO2 Adult sensor – 1 no.
- 6) Masimo SPO2 Extension Cable-01 no.
- 7) EtCO2 sampling lines – 1 no.
- 8) Power cord
- 9) Battery.

2) The Machine should carry with it warranty and AMC facility.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it:  
"Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL, Hyderabad"

4) The Approximate price is inclusive of GST.

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT, GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500051

## **Technical Specifications and Scope of Work:**

PURCHASE OF FOETAL DOPPLERS, ECG MACHINE-12 CHANNEL:

FOETAL DOPPLER MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

- A) HAND HELD FOETAL DOPPLER WITH LCD/LED SCREEN
- B) 2.5MHZ WATER PROOF PROBE
- C) SENSITIVITY: HIGH SENSITIVITY PROBE WHICH ENABLES USER TO MONITOR FOETUS GREATER THAN 12 WEEKS.
- D) IN-BUILT RECHARGEABLE BATTERY-LITHIUM ION WITH CHARGER.
- E) ACCURACY: ACCURATE FHR DETECTION WITH CLEAR SOUND +/- 2 BP.
- F) FHR MEASUREMENT RANGE: 50 TO 199 BPM
- G) HEAD PHONE SOCKET FACILITY
- H) INBUILT LOUD SPEAKER FACILITY

2) The Machine should carry with it warranty and AMC facility.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it:  
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4) APPROXIMATE PRICES ARE INCLUSIVE OF GST

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT, GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500051  
PURCHASE OF FOETAL DOPPLERS, ECG MACHINE-12 CHANNEL TO DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT, GHATKESAR UNDER CSR FUNDS. APPROVAL OF SPMCIL CHO RECEIVED VIDE LETTER NO:CHO/HR/CSR/2021-22/25/4953 DATED 24.03.2022.

ECG MACHINE-12 CHANNEL SHALL BE OF FOLLOWING SPECIFICATIONS:

- 1. Simultaneous 12 Channel ECG recording with 12 lead simultaneous acquisition
- 2. Should have visual alarm for open lead
- 3. Should have digital display of 7 inches or more for 12 channel ECG
- 4. QWERTY Alphanumeric keyboard
- 5. Built-in ECG Parameters measurements and Interpretation
- 6. Minimum 100 ECG Storage inbuilt memory.
- 7.3 Operating modes: Automatic, Manual and Rhythm
- 8. Should have a maintenance free digital thermal array printer
- 9. Printer should work with standard thermal paper (should be available in Local Market)
- 10. Should have 12 lead ECG preview display before taking printouts and should have printer on/off selection.
- 11. Should have ECG lead annotation facility
- 12. Machine should have sufficient battery backup for taking at least 25 nos ECG on a fully charged battery
- 13. Should supplied with 2 patient cable sets, 8 clip on electrodes, 12 chest electrode with silicon rubber bulb, 12 packets of recording paper, 1 bottle of jelly and 12 nos. reusable button type electrode
- 14. Should operate on mains(220v-50Hz) and rechargeable battery
- 15. Recording speed should be 25 mm/ sec and 50 mm/ sec.
- 16. Should have defibrillation protection.
- 17. CMRR should be >90dB or ECG machine should have digital processing with atleast 7000 samples per second from each lead wire.
- 18. Frequency response 0.05 Hz to 150 Hz.
- 19. Should have a digital filter for AC and EMG.
- 20. 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. Copy of the certificate/ test report
- 21. Should supplied with a suitable Trolley with following specifications
  - a) Trolley should made of Stainless Steel / Powder coated frame with SS 304 grade Top
  - b) Should be a 3-shelf (including the top) cart, one with a drawer for storing the accessories and consumables.
  - c) Should have four superior castors (two with brakes)
  - d) Trolley should have at least 30" height and the shelves should have sufficient space for storing the accessories
  - e) Top shelves shall be surrounded by railing.



f) Trolley should have a suitable cable arm firmly affixed having holder for ECG cables while not in use

2) The Machine should carry with it warranty and AMC facility.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it:  
"Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL,  
Hyderabad"

4) APPROXIMATE PRICES ARE INCLUSIVE OF GST

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL,  
MEDCHAL-MALKAJGIRI DISTRICT, GHATKESAR-501301

## **Technical Specifications and Scope of Work:**

PURCHASE OF CTG MACHINES:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

- a) Lightweight, compact and portable device that can provide measurements of FHR (Fetal Heart Rate), FM (Fetal Movement) and TOCO.
- b) Minimum 7- inch TFT LCD Display with tiltable display upto 90 degrees
- c) Can monitor the following parameters:
  - o Fetal Heart Rate
  - o TOCO Pressure
  - o Fetal Movement
  - o AUTO Fetal Movement
- d) Should be able to monitor Twins
- e) FHR Probe should have
  - o Ultrasonic frequency of 1 MHz
  - o Ultrasonic strength: <5mW/CM2
  - o Range of 50-210 bpm
  - o Accuracy: 1 bpm
  - o Probe should be Highly sensitive & water-proof transducer
- f) TOCO range: 0 -100 units
- g) Should have Foetal stimulator built-in to FHR probe and activation key should be there on the front panel
- h) Should have option to select Manual & Automatic fetal movement
- i) Should be able to display TOCO and FHR graphs
- j) Should have CTG interpretation report
- k) Should have Remote Event marker for mother & Clinical event mark button for nursing staff
- l) Should have 24hrs of data storage
- m) Should have audio and visual alarms
- n) Built-in Li-ion Battery with 4 hrs backup
- o) Device should be light weight - Less than 3 kg (without probes)
- p) Thermal paper with 152 mm dimensions
- q) Should have facility for data-save and print back facility
- r) Foetal movement should be detected on the screen and displayed on the printout as well
- s) Manufacturer should be an ISO certified 13485: 2016 Company
- t) Device should be supplied with standard accessories

2) The Machine should carry with it atleast 24 Months warranty and AMC facility for a further period of 12 months.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it:  
"Machine Sponsored under CSR Funds for the Year 2021 -22 by: India Government Mint, A Unit of SPMCIL, Hyderabad "

4) PRICE IS INCLUDING GST

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT, GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500051

## **Technical Specifications and Scope of Work:**

PURCHASE OF HYDRAULIC/MOTORIZED OT TABLES, DELIVERY & LABOUR TABLES:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

### HYDRAULIC OT TABLE SPECIFICATIONS

1. Material: Stainless Steel
2. Size: L 1850 to 1950mm x W 480-550mm
3. Minimum Height: 700-750mm
4. Power: 24 V DC
5. Back Section: 80 / 25 Degree
6. Kidney Elevator: 130 mm
7. Warranty: Minimum 2 Years
8. Control: Cable Remote
9. Side Tilt: 20 Degree / 20 Degree
10. Trendelenburg Reverse: 30 Degree / 20 Degree
11. Head Rest Up Down: 20 Degree / 60 Degree
- 12) Height adjustment: 700 mm - 1050 mm
- 13) Lateral tilt: 20degree / 20degree
- 14) Kidney elevator: 130 mm
- 15) Back Rest (up / down): 80degree / 25degree
- 16) Leg Rest (up / down): 15degree / 90degree
- 17) Battery Backup: 2-3 Hours (Optional)
- 18) Mains Voltage: AC 220 +/- 10% 50Hz
- 19) Patient Weight Capacity: UPTO 200 Kgs
- 20) Wheel: Yes
- 21) Electric Control: Yes

### REQUIRED FEATURES

- Fully electrically operated table with five sections and radio-translucent table top with eccentric pillars.
- Interchangeable head and leg sections (Automatic or manual).
- All positions operated through cable remote.
- Inbuilt kidney bridge.
- Auto leveling (zero function).
- Indication of Battery Back to be provided in the hand set.

2) The EQUIPMENTS should carry with it warranty and AMC facility.

3) The EQUIPMENTS being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it: "Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL, Hyderabad"

4) The Approximate price is inclusive of GST.

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT, GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500051

PURCHASE OF HYDRAULIC/MOTORIZED OT TABLES, DELIVERY & LABOUR TABLES

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

### Hydraulic /Motorized Delivery and Labour Table SPECIFICATIONS

1. Material: Stainless Steel/Mild Steel
2. Bed Dimension:(L x W x H) Overall size 1800-1880L x 600-660Wx 600-800H cms.
3. Power: 24 V DC
4. Back Section: 80 / 25 Degree
5. Warranty: Minimum 2 Years

6. Patient Weight Capacity: UPTO 200 Kgs
7. Wheel Diameter: 110-130 mm
8. Material Finish: Epoxy Powder Coated
9. Height adjustment: 600-800 mm
10. Lateral tilt: 20degree / 20degree
11. Back Rest (up / down): 80degree / 25degree
12. Leg Rest (up / down): 15degree / 90degree
13. Battery Backup: 2-3 Hours (Optional)
14. Mains Voltage: AC 220 +/- 10% 50Hz
15. Elevation Type: TB & RTB
16. Electric Control

#### REQUIRED FEATURES

- a) S.S telescopic IV Rod with 4 hooks.
- b) Tubular frame mounted on 125mm central locking castor.
- c) ABS head panel & S.S tray.
- d) Leg end section can slide under the main section.
- e) Height adjustment through high quality hydraulic pump.
- f) Overall size 1800-1880L x 600-660Wx 600-800H cms..
- g) Back section adjustment through rack mechanism.

2) The EQUIPMENTS should carry with it warranty and AMC facility.

3) The EQUIPMENTS being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it: "Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL, Hyderabad"

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5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJIRI DISTRICT, GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500051

## **Technical Specifications and Scope of Work:**

PURCHASE OF AUTO CLAVE (VERTICAL):

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

1. Automation Grade: Fully Automatic;
2. Shape: Vertical;
3. Pressure Range: 15 PSI;
4. Material: Stainless Steel;
5. Mount Type: Floor Mounted Autoclave;
6. Double walled construction outer M.S/S.S.304 & Inner S.S.304 with heavy Gauge & Argon Walled;
7. Lid is made of S.S.304 heavy gauge;
8. Fortified with pressure gauge, steam release valve & sufficient Safety valves;
9. Stainless Steel. perforated basket;
10. Steam pressure upto 15 PSI;
11. 230 Volts 50 HZ; Pressure cut off Switch;
12. Water Level cut off;
13. Digital Timer;
14. Microprocessor controller;
15. Printer Interface;

2) The Machine should carry with it warranty and AMC facility.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it:  
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## **Technical Specifications and Scope of Work:**

### **PURCHASE OF DENTAL CHAIR-CUM-UNIT:**

#### **FULLY LOADED DENTAL CHAIR ELECTRICALLY OPERATED**

##### **Technical characteristics**

1. It should have double articulating headrest with seesaw movement. It should be provided with soft cervical support.
2. Dental unit should have latest overhead delivery system.
3. It should have two 3 way syringes (Tip autoclavable, with spare tips) one on unit side and other on the assistant side.
4. It should have two high speed Air rotor terminals with two rotor hand pieces and accessories and one terminal for fiber optic. One for air motor/micro motor having straight and contra angle hand pieces and other for air rotor terminal with two air rotor hand pieces with two spare cartridges.
5. It should have LED light cure unit with minimum intensity 1200 mW/cm<sup>2</sup>.
6. It should have infection control system with non-retraction valves (Bio system /equivalent).
7. All hand pieces / terminals should be kept on Autoclavable pads. 8 spare autoclavable pads should be supplied.
8. Arm of unit should be pneumatically locked.
9. All air tubing of the delivery system can be disinfected internally after every dental procedure.
10. It should have one in built piezo ultrasonic scalar (max frequency should be 36 KHZ)
11. Removable auxiliary tray (autoclavable) shall be supplied – 10 sets.
12. It should have integrated latest foot operated LED light (30000 - 50000 Lux).
13. It should have rotatable water system with removable spittoon.
14. It should have Medium Vacuum Suction and high suction (Motorized Suction).
15. Should have following multiple programmes Two programmable working positions.
16. Spitting and last working position with light ON and OFF automatically.
17. Return to Zero position with light OFF automatically.
18. It should have emergency stop control with luminous indication
19. . Programmable bowl water and cup filler water.
20. It should have LED based X-ray viewer (For I.P.G/O.P.G films).
21. It should be provided with right arm.
22. It should have multi functional foot control base.
23. It should be provided with two stool with adjustable backrest tilt including an adjustable ring for foot rest
24. Oil free medical grade compressor of 1. HP ( fully imported)

##### **PHYSICAL CHARACTERISTICS**

1. Noise (in dBA): Noise-free system
2. Heat dissipation: Should maintain nominal temp and the heat should be disbursed through a cooling mechanism

**ENERGY SOURCE & POWER REQUIREMENTS: 230V, AC, 50 Hz, 15 Amps, Line resistance < 0.4 ohms**

##### **ACCESSORIES, SPARE PARTS, CONSUMABLES**

##### **LED LIGHT CARE UNIT:**

1. Ensures up to 1200 mW/ sq.cm

##### **ULTRASONIC SCALAR:**

1. Piezotronic Scalar with frequency of 28000-36000 Hz
2. Autoclavable hand piece , Total control is Micro processor based
3. Hand Pieces most sleek.
4. The scalar supplies with: Piezotronic scalar with 4 tips.

##### **FOOT OPERATED LIGHT:**

1. LED light with 3 intensity with 3 axis movement.
2. Intensity is between 30000 - 50000 Lux
3. On/off Switch by sensor switch - non touch.
4. Step intensity control by non touch sensor.

##### **AIR ROTOR:**

1. Air Rotor hand piece clean head with a speed of 350000 RPM
2. Supplies with
  - a. Titanium/ SS Air rotor torque hand piece.
  - b. Ultra push type non retraction valve.

#### BRUSHLESS MICROMOTOR:

1. It should have digital display of speed.
2. High Torque Micro motor ( Foot Controlled) with Speed range of 2000 -40000 RPM
3. It should have reverse and forward speed along.
4. It should have auto cut off system for over load. 5.It should be supplied with
  - a. Contangle Hand piece ( Autoclavable) : Speed : 40000 RPM
  - b. Straight Hand Piece (Autoclavable): Speed 40000 RPM.

#### AIR COMPRESSOR:

1. Medical grade, Oil free, Noise free at least 1 HP Compressor.
2. The compressor should be fitted with
  - a. Built in thermo cut off to save motor during excess of heat
  - b. auto head air release valve,
  - c. Automatic cut off
  - d. Safety release valve
  - e. Drain Valve
- f. The inner surface of the compressor tank (at least 35 L) is coated with Epoxy to prevent rusting.

#### STANDARDS AND SAFETY

1. Should be US FDA/CE/BIS/CDSO/AERB approved (USFDA/CE requirements will be applicable only when the Indian standards like BIS/CDSO/AERB is not available.)
2. Manufacturer and Supplier should have ISO 13485 certification for quality standards
3. Electrical safety conforms to the standards for electrical safety IEC 60601 -1-General requirements (or equivalent BIS Standard).
4. Manufacturer/Supplier should have ISO 13485 certificate for quality standard.

#### TRAINING AND INSTALLATION

1. Certificate of calibration and inspection of parts from the manufacturer
2. Training of users on operation and basic maintenance;
3. Advanced maintenance tasks required shall be documented;

WARRANTY AND MAINTENANCE: 3 years, including all spares and calibration.

#### DOCUMENTATION

Should provide 2 sets(hard copy and soft copy) of:

1. User, technical and maintenance manuals should be supplied in English/Hindi along with machine diagrams;
2. List of equipment and procedures required for local calibration and routine maintenance;
3. Service and operation manuals(original and Copy) to be provided;
4. Advanced maintenance tasks documentation;
5. Certificate of calibration and inspection,
6. Satisfactory certificate for any existing installation from hospital.

Recommendations or warnings

Any warning sign would be adequately displayed

2) The Machine should carry with it warranty and AMC facility.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it:  
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## **Technical Specifications and Scope of Work:**

PURCHASE OF PHOTOTHERAPY MACHINES:

SINGLE SURFACE PHOTOTHERAPY MACHINES:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

Specifications for SINGLE SURFACE LED phototherapy units for neonatal jaundice

1. Illumination source: Blue light emitting diodes (LEDs) – Minimum 20 Nos High bright BLUE LED - with lifetime of at least 20,000 hours

2. Illumination source for Observation: At least 3 white LEDs lamp for observation.

3. Peak spectral irradiance: at least  $30 \mu\text{W} / \text{cm}^2 / \text{nm}$  at 30 cm distance and should be adjustable from 15 – 70  $\mu\text{W} / \text{cm}^2 / \text{nm}$

4. Intensity control: It should be possible to increase or decrease the irradiance by a providing liner intensity control without changing the distance to the baby.

5. Timer: Electronic display needed which should show the patient timer and Total usage time.

6. Large effective surface area: mean spectral irradiance of at least  $25 \mu\text{W} / \text{cm}^2 / \text{nm}$  over an area of 25cm X 50cm at 30cm distance.

7. Emissions spectrum: blue light with a peak wavelength between 440 and 470 nm peaking at 458 nm.

8. Quality control: device is produced by manufacturer with ISO 13485 certification.

9. Electrical: device is compatible with 110 - 230 V 50/60 Hz power input.

10. Durability: LEDs are protected by suitable cover made of fire resistant transparent material.

11. Safety : Should have automatic Temperature cut off systems when the temperature increased inside the machine (Heat Sink) /cooling fan failed

12. Additional requirements:

a. Mounted on epoxy coated rust resistant stainless steel platform with castors.

b. At least 3 inch sturdy Castors, at least 2 should have breaks.

c. Height of stand's base must be less than 8cm to fit under radiant warmers/incubators and baby cots.

d. Height adjustable from 1.20m to 1.50 m (measured from bottom surface of enclosure to ground).

e. Light enclosure must be tiltable from horizontal to at least 45 degrees.

f. To have cooling fan inside the light enclosure.

13. Warranty: 1 year full warranty, including provision for rapid repair or replacement of broken device within five days of notification of problem.

14. Spares: One spare set of fuses and supplied with 50 nos eye mask.

15. User manual with trouble shooting guidance; Technical manual with maintenance and first line technical intervention instructions.

16. During warranty: full service, covering (i) 2 preventive maintenances per year, (ii) on-call technical interventions, all spare parts-metallic, electrical, plastic, rubber, glass etc., lamps (till 20,000 hours as specified in point 1 above) and travel.

2) The Machine should carry with it warranty and AMC facility.



3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it: "Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL, Hyderabad"

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DOUBLE SURFACE PHOTOTHERAPY MACHINES:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

Intensive LED Phototherapy with Irradiance Sensor

1. Illumination source: Blue light emitting diodes (LEDs) with lifetime of at least 20,000 hours
2. Illumination source for Observation: At least 3 white LEDs lamp for observation.
3. Peak spectral irradiance: at least  $30 \mu\text{W} / \text{cm}^2 / \text{nm}$  at 30 cm distance and should be adjustable from 15 – 70  $\mu\text{W} / \text{cm}^2 / \text{nm}$
4. Spectral Irradiance : It should have a provision to measure and display the Spectral irradiance ( $\mu\text{W} / \text{cm}^2 / \text{nm}$ ) in bed area and can be controlled through electronic control panel.
5. Timer: Electronic display with patient and Total usage timer to be provided.
6. Large effective surface area: mean spectral irradiance of at least  $25 \mu\text{W} / \text{cm}^2 / \text{nm}$  over an area of 25cm X 50cm at 30cm distance.
7. Emissions spectrum: blue light with a peak wavelength between 440 and 470 nm peaking at 458 nm.
8. Intensive Phototherapy.  
The unit should have tiltable head unit which heads should be flexible enough to rotate  $180^\circ$  and the arms should be able to rotate  $360^\circ$  so as to enable accurate and optimal positioning during treatment to cover the entire body surface area
9. Maximum and more uniform body surface area coverage: The unit should be able to work alongside infant radiant warmers
  - a) without blocking the heater output
  - b) and maintain desired intensity of mean spectral irradiance
  - c) and provide uniform body surface area coverage.
10. Irradiance sensor to be provided. It should have provision to measure and control spectral irradiance. The unit should have its own irradiance sensor which is detachable and can be used with other units of the same make.
11. No Fan. It should be using fan less technology.
12. Quality control: device is produced by manufacturer with ISO 13485 certification.
13. Electrical: device is compatible with 110 - 230 V 50/60 Hz power input.
14. Durability: LEDs are protected by suitable cover made of fire resistant transparent material.
15. Safety : Should have automatic Temperature cut off systems when the temperature increased inside the machine (Heat Sink) /cooling fan failed
16. Additional requirements:
  - a. Mounted on epoxy coated rust resistant stainless steel/ aluminum platform with castors.
  - b. At least 3 inch sturdy Castors, at least 2 should have breaks.
  - c. Height of stand's base must be less than 8cm to fit under radiant warmers/incubators and baby cots.

- d. Height adjustable from 1.20m to 1.50 m (measured from bottom surface of enclosure to ground).
- e. Light enclosure must be tiltable from horizontal to at least 45 degrees.

17. Warranty: 1 year full warranty, including provision for rapid repair or replacement of broken device within five days of notification of problem.

18. Spares: One spare set of fuses and supplied with 50 nos eye mask.

19. User manual with trouble shooting guidance; Technical manual with maintenance and first line technical intervention instructions.

20. During warranty: full service, covering (i) 2 preventive maintenances per year, (ii) on-call technical interventions, all spare parts-metallic, electrical, plastic, rubber, glass etc., lamps (till 20,000 hours as specified in point 1 above) and travel.

2) The Machine should carry with it warranty and AMC facility.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it:  
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4) The Approximate price is inclusive of GST.

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT, GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500 051

## **Technical Specifications and Scope of Work:**

PURCHASE OF PHOTO THERAPY WARMERS:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

PATIENT Warmers

A. Warmer Controls

1. It should be fixed height micro processor controlled radiant warmer with servo and manual heating options.
2. It should have facilities to display skin set temperature , observed skin temperature
3. It should have Celsius to Fahrenheit toggle facility
4. It should have user friendly touch panel control.
5. Three modes of operations to be provided.
  - a) Pre-warm b) Servo c) Manual
6. Mode of operation (servo/manual/prewarm) should be clearly displayed through LED indicator
7. In servo mode, baby set temperature should be 32 to 37°C
8. Large Digital display to be provided on control panel for easy viewing of skin Set temperature, observed skin temperature
9. Timer / APGAR timer display with toggle to be provided.
10. It should have heater output bar display
11. Mandatory heater cutoff (High Temperature Cutoff) to be provided at 38°C with alarm..
12. The desired operating temperature range from 20 to 40°C.
13. The resolution should be 0.1°C and accuracy should be + / - 0.2°C .
14. Manual Mode can adjust heater output from 10-100% with 5% increment. An auditory and visual alarm every 15 minutes should be provided.
15. Audio visual alarms in servo mode for
  - a) Probe failure
  - b) Heater failure
  - c) Power failure
  - d) Low temperature
  - e) High temperature
  - f) Heater cutoff (High temperature cutoff)
  - g) Sensor displacement alarm. Audio visual alarm in case of skin sensor is displaced from baby skin. Also heater output should be restricted to 50% max output if in case of skin sensor comes off / displaced.

B. Design, hardware and build.

1. It should have quartz infrared heater with parabolic reflectors.
2. It should have integrated bed. Bed can be tilted for easy patient observation and for conducting minor procedures OR a detachable baby trolley should be provided along with the warmer. The trolley should be such that it should easily slide & integrate over the warmer
3. Should have integrated tray / drawer meant to keep baby stuff.
4. Bed should have provision for x ray cassette holder.
5. Heater head should be rotatable 90° both ways so as to allow taking X Rays.
6. There should be Independent heater cutoff for high temperature in heater box.
7. Warmer should be able to run on UPS/external battery backup
8. LED Observation lamp of minimum 3 W to be provided for examining infant.
9. Bed should be 80-90 cms from floor and heater 80-90 cms from bed surface.
10. Should have 4" size castor wheels with minimum wheels lockable.
11. The sides of the baby bed should be of clear acrylic with drop down facility. The acrylic sheets should be at least 5 mm thick.
12. Markings on the bassinet sides and X Ray cassette holder are mandatory to enable proper position of the baby while doing X Ray.
13. X Ray Cassette tray should be of optimum size and being able to take up to 5 mm thick X Ray cassette.
14. The baby bed should be crevice free for easy of cleaning and infection control.
15. Skin temperature probe should of thermistor based only for greater accuracy.
16. Should have a standard IV Pole (sturdy, non rusting and medical stainless steel, adjustable to maximum 6 feet from ground.
17. Should have monitor tray stand.
18. Warmer body should be powder coated.
19. Power input to be 180 – 230 Volts AC. 50 Hz fitted with Indian plug with at least 3 metre length power cord.

20. Manufacturer should be ISO-13485 certified for quality standards.
21. Product warranty to be included for 1 years.
22. Should be supplied with user manuals.
23. Bidder to provide technical brochure during time of bid.

2) The Machine should carry with At LEAST 01 YEAR WARRANTY.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it:  
"Machine Sponsored under CSR Funds for the Year 2021 -22 by: India Government Mint, A Unit of SPMCIL, Hyderabad"

4) The Approximate price is inclusive of GST .

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT, GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500 051

PURCHASE OF PHOTO THERAPY WARMERS:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

INFANT WARMERS with integrated bed and tray/drawer / detachable baby trolley.

#### A. Warmer Controls

1. It should be fixed height micro processor controlled radiant warmer with servo and manual heating options.
2. It should have facilities to display skin set temperature , observed skin temperature
3. It should have Celsius to Fahrenheit toggle facility
4. It should have user friendly touch panel control.
5. Three modes of operations to be provided.
  - a) Pre-warm b) Servo c) Manual
6. Mode of operation (servo/manual/prewarm) should be clearly displayed through LED indicator
7. In servo mode, baby set temperature should be 32 to 37°C
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11. Mandatory heater cutoff (High Temperature Cutoff) to be provided at 38°C with alarm..
12. The desired operating temperature range from 20 to 40°C.
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  - a) Probe failure
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  - f) Heater cutoff (High temperature cutoff)
  - g) Sensor displacement alarm. Audio visual alarm in case of skin sensor is displaced from baby skin. Also heater output should be restricted to 50% max output if in case of skin sensor comes off / displaced.

#### B. Design, hardware and build.

1. It should have quartz infrared heater with parabolic reflectors.
2. It should have integrated bed. Bed can be tilted for easy patient observation and for conducting minor procedures OR a detachable baby trolley should be provided along with the warmer. The trolley should be such that it should easily slide & integrate over the warmer
3. Should have integrated tray / drawer meant to keep baby stuff.
4. Bed should have provision for x ray cassette holder.
5. Heater head should be rotatable 90° both ways so as to allow taking X Rays.
6. There should be Independent heater cutoff for high temperature in heater box.
7. Warmer should be able to run on UPS/external battery backup

8. LED Observation lamp of minimum 3 W to be provided for examining infant.
9. Bed should be 80-90 cms from floor and heater 80-90 cms from bed surface.
10. Should have 4" size castor wheels with minimum wheels lockable.
11. The sides of the baby bed should be of clear acrylic with drop down facility. The acrylic sheets should be at least 5 mm thick.
12. Markings on the bassinet sides and X Ray cassette holder are mandatory to enable proper position of the baby while doing X Ray.
13. X Ray Cassette tray should be of optimum size and being able to take up to 5 mm thick X Ray cassette.
14. The baby bed should be crevice free for easy of cleaning and infection control.
15. Skin temperature probe should of thermistor based only for greater accuracy.
16. Should have a standard IV Pole (sturdy, non rusting and medical stainless steel, adjustable to maximum 6 feet from ground.
17. Should have monitor tray stand.
18. Warmer body should be powder coated.
19. Power input to be 180 – 230 Volts AC. 50 Hz fitted with Indian plug with at least 3 metre length power cord.
20. Manufacturer should be ISO-13485 certified for quality standards.
21. Product warranty to be included for 1 years.
22. Should be supplied with user manuals.
23. Bidder to provide technical brochure during time of bid.

2) The Machine should carry with At LEAST 01 YEAR WARRANTY.

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## **Technical Specifications and Scope of Work:**

PURCHASE OF REFRIGERATOR OF 220-260 LITRES CAPACITY:

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

- A) Energy Efficiency: 5 Star Rating;
- B) Capacity: 220-260 ltrs;
- C) Freezer Capacity: 60-75 Litres;
- D) Form Factor-Standard\_ double\_door;
- E) Type: Inverter;
- F) Defrost System: Frost Free;
- G) Shelf Type: Glass/Hard Fibre
- H) Number of Shelves: 4-5;
- I) Material: Steel;

2) The Machine should carry with it warranty and AMC facility.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it:  
"Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL, Hyderabad"

4) The Approximate price is inclusive of GST.

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT, GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500051

## **Technical Specifications and Scope of Work:**

PURCHASE OF 01 Personal Computer with Laser jet printer

PC SHALL BE OF FOLLOWING SPECIFICATIONS:

- A) 21 Inch LED Monitor,
- B) Minimum i5 Processor,
- C) 8GB RAM,
- D) 1TB HDD
- E) PRE LOADED WINDOWS 10 WITH MS OFFICE

2) The Machine should carry with it warranty .

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it: "Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL, Hyderabad"

4) The Approximate price is inclusive of GST .

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT , GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500 051

LASERJET PRINTER SHALL BE OF FOLLOWING SPECIFICATIONS:

General

- 1. Printing Method: Laser
- 2. Type: Multi-function
- 3. Printing Output: Monochrome
- 4. Functions: Print, Copy, Scan

Print

- 1. Max Print Resolution (Mono): Up to 1200 x 1200 dpi
- 2. Duty cycle (monthly, A4): 1200 to 1500 pages
- 3. Print Speed Mono: 15 to 18 ppm
- 4. Additional Features: Processor speed: GREATER THAN 400 Mhz, Scan Resolution Hardware: 1080-1200 x 1200 dpi, Color Scanning: Yes, Paper Trays Standard: 1, Pre-Installed .

Scan

- 1. Bit depth Mono: 24-bit
- 2. Scan area size: 216 x 297 mm
- 3. Optical scanning resolution: Up to 1200 dpi
- 4. Scan Type: Flatbed

System Requirements

- 1. Operating System: Windows 7, Windows Vista, Windows XP, Windows Server 2003, Mac OS, WINDOWS 10 etc.,

Connectivity: • USB 2.0 or 3.0

- Warranty: Minimum 1 Year

2) The Machine should carry with it warranty .

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it: "Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL, Hyderabad"

4) The Approximate price is inclusive of GST .

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT , GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500 051

## **Technical Specifications and Scope of Work:**

### PURCHASE OF EQUIPMENT

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

#### INFANT LARYNGOSCOPE FOR PEDIATRIC DEPARTMENT

1. Infant Laryngoscope with Standard 3 Blade Sizes.
2. Material : Surgical Stainless Steel;
3. LED/Fiber optic Laryngoscope;
4. Type : Monocular;
5. Portable Mount;
6. DC Power Source

2) The Machine should carry with it warranty and AMC facility.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it:  
"Machine Sponsored under CSR Funds for the Year 2021-22 by: India Government Mint, A Unit of SPMCIL, Hyderabad"

4) The Approximate price is inclusive of GST .

5) THE EQUIPMENT SHOULD BE DELIVERED TO THE SUPERINTENDENT, DISTRICT HEADQUARTERS HOSPITAL, MEDCHAL-MALKAJGIRI DISTRICT, GHATKESAR-501301 AFTER verification at India Government Mint, IDA Phase-II, Cherlapally, Hyderabad-500 051

### PURCHASE OF EQUIPMENT

1) MACHINE SHALL BE OF FOLLOWING SPECIFICATIONS:

#### OTOSCOPE WITH SPECULUMS OF ALL SIZES FOR PEDIATRIC DEPARTMENT

1. Type: Monocular,
2. Mount Type: Portable,
3. Voltage:3.5V DC,
4. Magnification:3.5,
5. Reusable All size Specula,
6. Color LED Otoscope With Rechargeable Battery Handle,
7. 3.5V Rechargeable battery,
8. Charger,
9. Halogen HPX lamp,
10. Magnification: 5X;

2) The Machine should carry with it warranty and AMC facility.

3) The machines being supplied should carry the following credit slogan and SPMCIL LOGO prominently on it:  
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