

DISTRICT MANSA
LAB UPGRADATION

1. ELECTROLYTE ANALYSER. *(Detail attached)*
2. COAGULOMETER. *(Detail attached)*
3. PORTABLE SPIROMETERY.
4. ABG MACHINE.
5. ECG 12 LEAD MACHINE.

SPECIFICATION:-

ALL EQUIPMENT SHOULD BE BRANDED, FULLY AUTOMATIC

**CIVIL HOSPITAL MANSA REQUIREMENTS FOR PEDIATRIC
AND NEWBORN LEVEL II SET UP**

1. PEDIATRIC OXYGEN MASKS (PVC GOOD QUALITY)
2. OXYGEN HOODS FOR NEWBORNS X 6 (SPECIFICATIONS MENTIONED IN THE ATTACHED COPY)
3. NEWBORN BUBBLE CPAP X 1 (SPECIFICATIONS MENTIONED IN THE ATTACHED COPY)
4. MULTIPARA MONITORS WITH PEDIATRIC AND NEWBORN PROBES X 6 (PORTABLE, PEDIATRIC/NEWBORN/ADULT MULTIPARA, 4800 mAh, 11.1V RECHARGEABLE LITHIUM ION BATTERY WITH ATLEAST 2.5 HOURS BACK UP)
5. NEWBORN WARMERS X 3 (SPECIFICATIONS MENTIONED IN THE ATTACHED COPY)
6. ICU BEDS X 6 (MECHANICAL, WITH ELEVATION CONTROL)
7. LED PHOTOTHERAPY UNITS X 2 (SPECIFICATIONS MENTIONED IN THE ATTACHED COPY)
8. PORTABLE X-RAY MACHINE WITH READER UNIT X 1 (SPECIFICATIONS MENTIONED IN THE ATTACHED COPY)

9. SYRINGE INFUSION PUMPS X 6 (SPECIFICATIONS MENTIONED IN THE ATTACHED COPY)

10. LAMINAR AIR FLOW X 1

11. LARYNGOSCOPES (PEDIATRIC STRAIGHT BLADE SIZE 1 AND NEWBORN STRAIGHT BLADES 0 AND 00 MADE OF STAINLESS STEEL) X 2

12. ENDOTRACHEAL TUBES (2.5MM, 3 MM, 3.5 MM, 4 MM, 4.5 MM, 5 MM, 5.5 MM, 6 MM)

13. AMBU BAGS (PEDIATRIC 635 ML AND NEWBORN 220 ML) X 2 EACH

14. CRASH CARTS X 2 (STAINLESS STEEL)

As doctors are on strike, no concerned doctor is not available to sign

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OXYGEN HOOD (NEONATAL)

Technical Specifications:

Square shaped -Single moulded Acrylic Hood

Overall Size:

Height: 255 mm

Length: 220 mm

Width: 200 mm

Neck Size:

Width: 145 mm

Height: 95 mm

Height adjusted Silicon neck flop

Oxygen inlet port

Top land Area: 170x130 mm

Doctor on strike

② CPAP - specifications

PERFORMANCE SPECIFICATIONS		
Maximum pressure limit	17 cm H ₂ O at 8 L/min	
Resistance to flow	Expiratory Limb 0.6 cm H ₂ O @ 15 L/min	
Flow rate range	4-15 L/min	
CPAP range	3-10 cm H ₂ O	
Circuit compressible volume	Approx. 285 mL	
Circuit compliance	Approx. 0.31 mL/cm H ₂ O	
Operating temperature range °C	18-26 °C / 64-79 °F	
Length of circuit tubing	Inspiratory 1.1 m Expiratory 1.2 m	Inspiratory 1.4 m Expiratory 1.2 m
Circuit tubing internal diameter	Inspiratory limb approximately 11 mm	
Oxygen monitoring port sizes	22 mm male or 15 mm female	
Pressure monitoring port size	Female luer	
Humidifier compatibility	MR850 or MR730 humidifiers	
Humidifier mode	MR850: 37° (intubation), MR730: 40°, -3	
Duration of use	Single patient use, 7 days	
Recommended gas source	Medical grade blended air and oxygen from an air/oxygen blender	
COMPONENTS AND COMPOSITION		
Pack components	MR290 humidification chamber**, pressure manifold, bubble CPAP generator, bubble CPAP circuit	
Predominant materials	Polystyrene, polypropylene, polyethylene, ABS, copper/nickel	
Chamber materials**	Polystyrene, ABS, polyethylene, thermoplastic elastomer, polycarbonate, polypropylene, silicone, PVC, aluminium	
Materials not present	Not manufactured with natural rubber latex or phthalates (DEHP, DBP, BBP)	
Manufacturing mode	Produced in a controlled working environment	
Disposal	According to hospital protocol	
Shelf life	3 years	

- Power failure
- System failure
- Time out alarm (Manual mode automatic reduction of heater output at 10 minutes)
- Manual mode alert alarm (every 15min.)
- Over temperature
- Over Temperature Protection - **Automatic cut-off of heater at 39°C** should be provided.
- Temperature Display should be - Bright 1" numerical LED for displaying infant Temperature
- Bright 0.5" numerical LED for displaying Set Temperature

➤ Fuse Rating	➤ Model - 110V	➤ Model - 230V
➤ Main Supply	➤ 8A	➤ 4A
➤ Examination lamp	➤ 2A	➤ 2A

- Bassinet tilting should be **± 12 deg**
- Bassinet Dimension should be 82 cm (L) x 52 cm (W)
- Mattress should be **85cm from the heater module.**
- The baby bed should be crevice free for ease of cleaning, infection control
- The mattress used should be of bio compatible material.
- Should have provision for X-ray tray holder.
- Markings on the bassinet and X-Ray cassette holders is mandatory to enable proper positioning of the baby while doing the X-Ray.
- The size of the drop down sides should be such that it is 5" above the mattress surface and should be atleast 6mm thick; clear and transparent.
- Should be provided with **4 nos. 4" castors with brakes.**
- Should have provision for storage drawer under the bed to place the baby or nursing accessories.
- Physical Dimension should be 105 cm (L) x 78 cm (W) x 190 cm (H)
- Coating should be **Epoxy / power coated** body for scratch protection and rust prevention
- Should be provided with battery backup for power failure indication during power fails.
- Should be **European CE Certificated from notified body.**
- Should comply with Electrical standards **IEC60601.**
- Manufacturer should be **ISO 13485 Certified .**

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SPECIFICATIONS - Infant Radiant Warmer

- The system should be Micro controller based servo control system.
- Electrical specifications should be as :

● Operating Voltage*	● 230V AC~, 50Hz	● 110VAC~, 60Hz
● Power consumption (Max)	● 800w / 3.4A	● 800w/ 7A
● Heater Power	● 600W	● 500W

- Heater should be **single Quartz Infrared** heating element placed in a **Parabolic Reflector**.
- Heater unit should be made of **FRP material**.
- Manual Mode Heater control range should be **0% to 100% (in 10% increments)**
- If there is more than 60% heater output for 10 minutes it should cut off with alarm.
- Heater Life Time should be **12months**
- Should be provided with one number examination lamp.
- Should have a **facility to lock the keyboard** to avoid unwanted user modification of the set parameters.
- Skin temperature probe should be thermistor based interchangeable probe.
- Measuring Temperature Range should be **15°C to 40°C**
- Accuracy should be $\pm 0.2^\circ \text{C}$
- Resolution should be 0.1°C
- Probe interchangeability should be $\pm 0.2^\circ \text{C}$
- Servo mode set temperature range should be **32°C to 38°C**
- Probe calibration need not be required.
- Examination lamp should be Lamp type - 12V, 50W, Halogen Lamp
- Lamp illumination should be 90 foot candela at center of mattress
- Should have audio and visual alarms as below:
 - High temperature ($> 0.5^\circ \text{C}$ difference)
 - Low infant temperature ($< 0.5^\circ \text{C}$ difference)
 - Temperature Probe failure
 - Heater failure

● Lamp unit tilting	Up to $\pm 45^\circ$ with continuous tilting mechanism
● Time totalizers	Machine run time totalizer and Therapy time totalizer
● LCD	Backlit

Electrical Supply Specifications	
● Electrical supply	Specification
● Voltage	100v-240vAC ~
● Current	0.8A Maximum
● Frequency	50/60Hz, single phase
● Power consumption	42W Maximum
● Expected life of the LED	more than 1,00,000 Hours

Table 2.4 Environmental Specifications during Operation and Transport/Storage***

Environmental feature	Specification*	Specification**
Ambient temperature	10°C to 35°C	0°C to 50°C
Relative humidity	0% to 90% noncondensing	0% to 90% noncondensing
Atmospheric pressure	70 kPa to 106 kPa	50 kPa to 106 kPa

Table 2.5 Electrical Classifications

Feature	Classification
Type of protection against electrical shock	Class 1
Mode of operation	Continuous
Protection against ingress of liquids	Not protected (IPX0)

*Conformity with standards,
IEC 60601-1, IEC 60601-1-2, IEC*

- Should be **European CE** Certificated from notified body.
- Manufacturer should be **ISO 13485** certified.
- Coating should be Epoxy powder coated for scratch resistance and rust protection.

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SPECIFICATIONS - LED Phototherapy Unit

Performance Specifications should be as follows	
● Performance feature	Specification
● Illumination source	Blue LED, 9 Nos
● Peak spectral irradiance	55 μ W/cm ² /nm(\pm 15%) at 45 cm, as measured with Ocean Optics Spectrophotometer
● Peak wavelength	451 nm
● Emission spectrum	445-470 nm (bounds of FWHM range)
● Effective surface area	500 mm x 250 mm at recommended treatment distance
● Irradiance ratio	\geq 0.4 (minimum/maximum irradiance)
● Light intensity	Selectable (High or Low)
● Observation light	White LED, 2 Nos

Physical Specifications should be as follows	
● Physical feature	Specification – Top unit
● Overall dimensions	Height x Width x Depth: 123 cm x 69 cm x 64 cm
● Head assembly dimensions	Height x Width x Depth: 55 cm x 30 cm x 5 cm
● Total unit mass	12 kg
● Footprint of stand	Length x Width x Depth: 69 cm x 64 cm x 10 cm
● Height of base	< 10 cm
● Casters	2" castors, Lockable
● Height adjustment range	118 cm – 165 cm approx. (distance between bottom surface and ground)

- The stand is designed for maximum manoeuvrability of the unit and is able to achieve tube focus to floor distance.
- The equipment occupies minimum floor area and is capable to be taken through elevators with ease.

POWER REQUIREMENT: The unit should be operable on Single Phase 230V, AC, 50Hz. 15 Amps with line regulation of $\pm 10\%$. Line resistance 0.4 ohms.

OTHER REQUIREMENTS:

- The company should be ISO certified.
- The Product should be European CE certified with 04 digit notified body number.
- The unit should be approved by AERB.
- The company should have a local Service center.
- The company should have proven track record in Govt. sector.

②

SPECIFICATIONS OF 4.2 KW HIGH FREQUENCY X-RAY MACHINE

High frequency X-Ray machine suitable for general radiography.

X-RAY GENERATOR:

- High Frequency X-Ray Generator having frequency of 110KHz or more should be provided.
- Power output of generator should be 4.2KW.
- Radiographic KV Range should be 40 to 120KV.
- mA Range (Rad.): 110mA or more.
- Exposure time (Rad.): 9ms to 5Sec.
- mAs Range (Rad.): upto 200mAs.

CONTROL:

Attractive and ergonomically designed control panel with total soft touch switches for various operations, having following functions & indications.

- Machine ON/OFF switch
- Digital display of KV and mAs.
- KV and mAs increase and decrease switches.
- Ready and x-ray on switch with indicators
- Bucky selection switch.
- Stand by and exposure release switch.
- Self diagnostic program with indicators for:-
 - Earth fault error
 - KV error
 - Filament error
 - Tube Head thermal overload.
- X-Ray on indicator.
- Incoming voltage indicator.
- Anatomical programming up to 216 pre-programmed functions in which automatic selection of Technical Factors is done according to the Body part Selection.

A 2-Step hand switch with dual action for exposure release with retractable cord should be provided for taking images from a safer distance.

X-RAY TUBE:

- Mono-block version X-Ray tube head should be provided. The mono-block consists of Stationary Anode X-Ray tube, H.V. transformer, filament transformer, H.V. rectifiers and capacitors, all immersed in high grade oil with high dielectric strength. Mono-block Tube Head should be protected for thermal overload.
- Manual LBD (light beam diaphragm) with should be provided with provision of Auto Shutoff.

STAND:

- Mobile stand with 4-wheel design, which ensures easy mobility and steering.
- The spring balance stand is very light in weight with tube arm, which is very easy to manoeuvre and allows smooth movements of tube head in vertical plane.
- Lead lined cassette storage box.
- Large nylon wheels for easy mobility.

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SYRINGE INFUSION PUMP SPECIFICATIONS

1. COLOUR LCD/LED WITH INFUSION RATE DISPLAY
2. IN-BUILT DRUG LIBRARY
3. HISTORY RECORD AND LAST CONFIGURATION MEMORY
4. AUTOMATIC SYRINGE CALIBRATION
5. MULTIPLE INFUSION MODES
6. PRESSURE DETECTION
7. DOUBLE CPU
8. BOLUS MODE
9. FIXING CLAMPS

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SPECIFICATION:-

ALL EQUIPMENT SHOULD BE BRANDED, FULLY AUTOMATIC

DISTRICT MANSA

1. HOSPITAL BEDS.
2. IV STANDS.

SPECIFICATION:-

HOSPITAL BEDS WITH MECHINICAL ELEVATION(WITHOUT KEY)

1

Electrolyte Analyser

Specifications:-

- Compact and easy to use with maintenance free electrodes.
- Electrolytes Na, K, Ca analysis.
- Sample to be used whole blood, serum, plasma, urine.
- Automatic Sampling.
- Measuring time minimum
- Data Storage Maximum
- Wide range of ambient conditions
- Including Graphic display
- Inbuilt printer for reports
- Low cost per test
- Automatic Callibration
- Maximum precision and reliability
- Battery Backup
- Q.C.

Coagulometer:

Specifications

- Compact and Easy to use.
- Assay Modes: PT/APTI/AB/TT/FACTORS/PS/PC/D-Dimer; programmable.
- Report tip- Seconds; Ratio; INR; %Act, mg/dl/10 ml, GIC etc.
- Samples at one time- (Multiple Sample)
- Positions for incubation of reaction cures and reagents.
- Wide range of ambient temperature/ Conditions.
- Q.C
- long battery back up.
- Graphical Display and Inbuilt printer for reports.
- Calibrator
- Max. data storage.
- Coagulation clotting time display.

Technical Specifications

ALU710 ANALYSER

SYSTEM GENERAL

System Type: In-store, automated, random access, patient driven used clinical chemistry analyzer

Throughput: 360 tests / hour photometric and 600 tests / hour with ISE
(Optional ISE with Na⁺, K⁺, Cl⁻, U⁺)

Analytical Methods: 1-Point, 2-Point, Rate-A, Rate-B, Direct Potentiometry (optional)

Barcode Reader: For reagents and samples (optional)
Reaction Tray: 60 hard glass cassettes

Reaction Mixing: Stirrer with variable speed
Minimum reaction Volume: 150 µl with maximum 700 µl reading volume

On-board laundry: 2 stage cleaning, 2 stage drying
Photometer: Multi-wavelength diffraction grating with 12 wavelet grims (340, 375, 415, 450, 480, 505, 546, 570, 600, 660, 700, 750 nm)

OD Range: 0.0 - 3.0
Light Source: Halogen lamp
Detector: Silicon photodiode

Water Consumption: < 10 litres

Programmable Parameters: Default system pack parameters + upto 99 user defined parameters, Unlimited profile and unlimited calculation items

Quality Control: QC plot data with QC rules
Provision for lab mean, Twin plot

Calibration: K-Factor, Linear (1, 2 point & multipoint), 4P and 5P Logit-log, cubic spline, exponential, polynomial, On-board serial dilution for calibrator

Power Requirement: AC 220 V ± 10 %, 50 Hz or AC 110 V ± 10 %, 60 Hz
Power Consumption: 800 VA

Dimension: (mm) Approx. 675 (W) x 840 (D) x 1170 (H)
Weight: Approx. 150 kgs

SAMPLE HANDLING
Sample: Serum, Plasma, Urine, CSF, Whole blood, other

Sample Unit: 82 positions for samples, blank, controls, calibrators, STAT sample

Sample Pipetting: 2 - 70 µl (adjustable in 0.1 µl steps) for Biochemistry, 70 µl fixed for ISI
Capacitance probe with liquid level sensing & vertical obstruction detection, serum indices

Auto Rerun: Repeat with same, increased or decreased volume (upto 1:150)

Sample Tubes /Cups: Primary tubes of 5 ml, 7 ml, 10 ml and sample cups

REAGENT HANDLING
Reagent Tray: 50 positions for reagents with onboard cooling

Reagent Pipetting: R1: 50 - 300 µl (adjustable in 1 µl step)
R2: 10 - 200 µl (adjustable in 1 µl step)
Capacitance probe with level sensing & vertical obstruction detection

SYSTEM INTERFACE:
Analyzer-PC: USB
PC - Host Computer: Bidirectional TCP / IP & RS - 232

PC - Printer: USB
Operating System: Windows Based
Database: Unlimited Results