



ವೈದ್ಯಕೀಯ ಶಿಕ್ಷಣ ನಿರ್ದೇಶನಾಲಯ  
DIRECTORATE OF MEDICAL EDUCATION  
Ananda Rao Circle, Bengaluru-560002

Phone :+91-80-22870060  
Fax:+91-80-22875798  
dmekarnataka@yahoo.com

No. ME/TENDER/72/2021-22.

Dt. 21.01.2022.

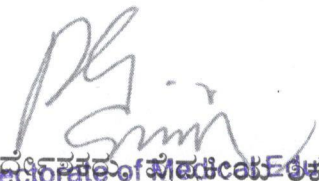
“ನೋಟಿಸ್”

ಕೋವಿಡ್-19 ಸಂಬಂಧ ವೈದ್ಯಕೀಯ ಶಿಕ್ಷಣ ನಿರ್ದೇಶನಾಲಯದ ವ್ಯಾಪ್ತಿಯಲ್ಲಿ ಬರುವ ವೈದ್ಯಕೀಯ ಕಾಲೇಜು/ಆಸ್ಪತ್ರೆಗಳಿಗೆ NHM ನ ERCP-II ಅನುದಾನದಡಿ ಅಗತ್ಯವಿರುವ ವೈದ್ಯಕೀಯ ಉಪಕರಣಗಳನ್ನು ಕೆಟಿಪಿಪಿ ಅಧಿನಿಯಮ 1999, ನಿಯಮ 2000ರ 4(ಎ)ಅಡಿಯಲ್ಲಿ ಖರೀದಿಸಲು ತೀರ್ಮಾನಿಸಲಾಗಿದೆ.

ವೈದ್ಯಕೀಯ ಉಪಕರಣಗಳ ವಿವರಗಳನ್ನು ಈ ನೋಟಿಸ್‌ನೊಂದಿಗೆ ಲಗತ್ತಿಸಿದ್ದು, ಸದರಿ ಉಪಕರಣಗಳಿಗೆ ಕೆಳಕಂಡ ಷರತ್ತು ಮತ್ತು ನಿಬಂಧನೆಗಳನ್ನು ಪೂರೈಸಿ ಅರ್ಹರಾದಲ್ಲಿ ಆದೇಶ ಪಡೆದ ನಂತರ ಕೂಡಲೇ ಸರಬರಾಜು ಮಾಡಲು ಸಾಧ್ಯವಾಗುವಂತಹ ಸರಬರಾಜುದಾರರು ದಿನಾಂಕ:-24/01/2022 ರ ಅಪಾರಾಹ್ನ 3.00 ಗಂಟೆ ಒಳಗಾಗಿ ಅಗತ್ಯ ದಾಖಲೆಗಳೊಂದಿಗೆ ಈ ಕೆಳಕಂಡಂತೆ ಸಲ್ಲಿಸಲು ತಿಳಿಸಿದೆ.

Supplier shall fulfill the below mentioned Terms & Conditions and also should submit the required documents/proof without fail:

SI No	Description	Remarks
1	Hard Copy Technical Documents	1. Shall be submitted on or before 24.01.2022. 3.00 PM 2. Hard Copy Technical Documents shall be submitted to Personal Section, Directorate of Medical Education, Anandrao Circle Bangalore
2	Financial Bid	1. Shall be submitted through email to <a href="mailto:dmekarnataka@yahoo.com">dmekarnataka@yahoo.com</a> on or before 24.01.2022. 3.00 PM only
3	Technical Documents to be submitted compulsorily, failing which bid will not considered.	1. Manufacturer License in case of manufacturer 2. Manufacturer Authorization in case of authorized distributor 3. Stock Availability Declaration 4. Service Center in Karnataka 5. Technical brochure 6. Technical Compliance Sheet 7. Warranty for 3 years undertaking letter from the manufacturer for the unit price quoted 8. List of items quoted. 9. Supply details of similar equipment in last three years 10. Atleast 5 purchase order copies received in last three years from other Govt or reputed pvt hospitals for the same equipment. 11. Warranty of all equipment shall be three years and CMC for 7 years shall be quoted seperately.

  
Directorate of Medical Education  
Anand Rao Circle, Bangalore



ವೈದ್ಯಕೀಯ ಶಿಕ್ಷಣ ಸಂಸ್ಥೆ  
DIRECTORATE OF MEDICAL EDUCATION  
Ananda Rao Circle, Bengaluru-560002

Phone :+91-80-22870060  
Fax:+91-80-22875798  
dmekarnataka@yahoo.com

No. ME/TENDER/72/2021-22.

Dt. 21.01.2022.

SI No	Equipment Name
1	Defibrillator
2	Oxygen Flowmeter
3	Portable X-ray Machine
4	HHFNC
5	Infusion Pump
6	Multichannel Monitors with NIBP with Different Cuff
7	Ambo Bag - Different Sizes
8	Laryngoscope - With Different Blades and stright and curved
9	ECG Machine
10	Thermo Scanner/ Thermometer
11	ICU Cots
12	BP apparatus Paediatric Cuff
13	BP apparatus Neonatal Cuff
14	Ophthalmoscope
15	Finger Pulse Oxymeter
16	Oxygen Hood
17	Radiant Warmer
18	Phothotherapy
19	Crash Cart
20	Portable Ultrasound with Echo
21	ABG
22	Otoscope
23	Video Laryngoscope
24	X-Ray View Boxes
25	Patient Trolley
26	Wheel Chair
27	Over Head Table
28	Baby Incubator
29	Bed Side Locker
30	Over Bed Table
31	Bed side Stool
32	Dressing Trolley
33	Drug Trolley
34	Instrument trolley
35	Semiflower Cot with Mattress
36	IV Pole

  
Directorate of Medical Education  
Anand Rao Circle, Bangalore

## Specification of PULSE OXIMETER

### standards

Compliance to certification (US FDA/CE certification will be accepted only when the Indian standards/certification like BIS/CDSO/AERB are not available)	CE
Certification number and date	0015(28-01-2020)
"Electrical safety conforms to standards for electrical safety"	IEC-60601-1 or equivalent BIS

### Performance Parameters

Type of Pulse Oximeter	TABLE TOP
Should work during motion and very low perfusion conditions	Yes
Special Signal processing Technology (Motion artifact rejection)	Masimo - SET technology
SPO2 probes	Reusable
Oxygen saturation Range	0-100%
Pulse rate	25-240 BPM

Trends	96 hrs
Type of trend display	Graphical
Data interval in sec	10
Power source	Inbuilt re-chargeable battery and mains 220-240 V , 50 Hz AC operation
Automatic switch from mains to battery in case of power failure	Yes
RS 232C interface for data communication and transfer	Yes
Should have provisions for wireless and blue tooth connectivity	Yes
Patient extension cable	Yes
Power consumption in watts	5
Operating Temperature	"Ambient temperature of 0 to 40 deg C and relative humidity of 15 to 90%"
Weight of the machine in kg	1.36
Protective splash proof case for clean and strogage and safe transport provided	Yes

Length of power cable 3m or more

Noise level in dB 10

Display must allow easy viewing in all ambient light levels Yes

Non Invasive Hemoglobin No

Respiratory Rate (RRP) No

Pleth Variable Index (PVI) Yes

### Probes

Type of probe Neonatal

Probe usage Reusable

Number of probes provided (Hint: in case adult , pediatric and neonatal are selected for type of probe all the three have to be given and in case adult & pediatric are selected both are to be given) 1 each

### NIBP Parameters

Non invasive blood pressure (NIBP) provided No

Display of SPO2 and PR	digital display with plethysmograph with trends
Accuracy	± 5 %
Type of Patient	Adult, Pediatric, Neonatal
Should be shock proof	Yes
Display (with contrast adjust-ability)	LCD
Display should be Readable from at least 3 feet	Yes
Saturation displayed on the screen	Yes
Pulse Rate displayed on the screen	Yes
Perfusion Index displayed on the screen	Yes
Status of battery charging displayed on the screen	Yes
Sensor off /on status	Yes
Audible and visual Alarms	Yes
Alarm override facility should be present	Yes

Type of BP monitoring NA (If NIBP not provided)

NIBP range in mmH NA (If NIBP not provided)

Cuff size NA (If NIBP not provided)

Number of cuff's provided NA (If NIBP not provided)

Warranty in years (without probes) 5

Warranty for probes in years Not Provided

### Reports

Confirmity to Manufactures Certification ISO 9001 & ISO 13485

ISO/ ICMED Certification number and date G1 092076 0015 (28-01-20)

Copies of all certifications to be furnished to buyer on demand at time of supplies Yes

\*NOTE: 1. For medical colleges under DME  
2. Products should be supplied with 3 years of warranty

*Permanal*

*Mr. B. S. ...  
K. S. ...*

*... ..*

## Specification of ICU Cots

### Performance Parameter

Purpose	ICU Bed are required to be used in Intensive Care Unit for comfort of Patient & facilitate comfortable transfer to & from Emergency/ OT/ Ward etc. & also to carry out point of care process including Radio-logical procedure at bed side
Type of ICU Bed Actuator	Electro-Mechanical (Motorized )
Type of mechanism for functioning or controlling angular motion of bed part	Hydraulic mechanism (Motorized)
Type of mechanism for functioning or controlling Height of bed	Hydraulic mechanism
Number of section provided in Bed Top	4
Base frame and support frame should be fabricated using metallic square / rectangular section of adequate cross section and thickness to provide high structural strength and stability	Yes
Bed top perforated	Yes
Bed should have radio translucent top (X-Ray translucent)	No
Availabilty side panel/Side safety guard	Yes



Type of side panel	Swing Up Down type
Number of Side panel	4
Availability Head & Foot panel/Board	Yes
Shape of Head & Foot panel /Board	B-type shape
Type of Head & foot Panel	Detachable type
Material of head and foot panel	ABS (acrylonitrile-butadiene styrene)
Availability of good grip for head/foot or side panel	Yes
Slots for IV rod at four corners provided	Yes
Number of hooks provided in IV rod	2
Availability of rectangular telescopic tube box housing for tension spring	Yes
Degree Angle & Height indicator shall be provided at both foot & head side	Yes
X-Ray film holder used from	One side
Type of X-Ray Film holder	Cassette Based System

Power of motor in HP(for non motorized put NA)	0.5 hp
Better quality bearing should be used	Yes
Avaiability of patient constraint belt provided on both side of bed	No
Availability of Noiseless, non rusting swivel castor wheel/ roller with for easy Mobility & Steering	yes
Facility of braking and locking mechanism provided in castor roller	Yes
Number of caster to which braking system provided	2
Avaiability Corner buffer in all four corner to protect patient from collision shock	Yes
Safe working load capacity of ICU bed in kg	200
Facility of instant non powered/mechanical CPR( Cardiopulmonary Resuscitation) release at the head end for emergency	Yes
Lilen Holder/Urine Bag holder provided	Yes

Approx foam Density for Heel in kg/m <sup>3</sup>	30
Therapeutic Weight limit for mattress in kg	150
Operating temperature & humidity for ICU bed	10 -40 Deg C and relative humidity of 15-90%
Power Supply ( as appropriate fitted with Indian plug)	Single phase 230 Volt, 50 Hz ( AC Supply )
Facility of Resettable overcurrent breaker shall be fitted for protection	N/A for handle operated
ICU Bed frame and top must be Rust Proof	Yes
Type of powder/Paint coating done to ICU Bed frame,top & side panel	Epoxy Polyester Coating 50-60 microns
ICU Bed should be made up of high quality metal, pretreated with materials providing good finish, scratch resistant, bacteriostatic coating	Yes
Process used for pre chemically treatment of metallic bed component	Dip tank processes
Facility of easily cleaning /maintenance to ICU Bed	Yes
Warranty (Option of comprehensive warranty is available through bidding only, which if opted will supersede	3

normal warranty in the catalogue)

Product instruction manual shall be supplied Yes

Standard Tool Kit for maintenance and Trouble Shooting to be provided with ICU bed Yes

Demonstration of working to be provided after completing supplies before Acceptance Yes

#### Standard Parameter

Conformity to standard for safety & electromagnetic compatibility IEC-60601-1-2:2001 Standard or IS-13450

#### Dimensional & Material Parameter

Material for the frame of bed MS

Material for side railing/ Side Safety guard ABS Plastic

Material for Head & Foot Panel/Board ABS Plastic

Material for Bed top Section MS

Material of wheels Polyester

Material for IV rod with chromium plated	SS
Maximum Adjustable Back Rest Angle in Degree	0-70
Maximum Adjustable Knee Rest Angle in Degree	0-40
Diameter of Castor Roller in mm	130-150
Maximum Trendlenburg Angle in Degree with tolerance $\pm 2$ degree	10
Maximum Reverse Trendlenburg Angle in Degree with tolerance $\pm 2$ degree	10
Bed height adjustability range in mm	500-900
Mean coil diameter of tension spring used in counter weight mechanism in mm	N/A for Super Smooth Crank Screw Mechanism & Hyraulic mechanism for height
Spring coil diameter used in counter weight mechanism in mm	N/A for Super Smooth Crank Screw Mechanism & Hyraulic mechanism for height
Clearance between Bed Base frame and Floor surface in mm	120
Length of bed in mm with 2% tolerance	2100-2200
Width of bed in mm with 2% tolerance	950-1000

Weight of ICU Bed in Kg	150
-------------------------	-----

### Additional Parameters

Spares ICU Bed Mainframe supplied	Not supplied
-----------------------------------	--------------

Spares Pair of Bed Ends, detachable supplied	Not supplied
--	--------------

Spares Collapsible side rails supplied	Not supplied
--	--------------

Spares IV Rods supplied	Not Supplied
-------------------------	--------------

Spares Matress simmlar to one supplied with ICU bed	not supplied
---	--------------

### Reports

Certifications for Product	European CE
----------------------------	-------------

Electric Shock Protection level-Class-B/class-1	Yes
---	-----

Availability of ISO certification with manufacturer	Yes
---	-----

ISO certification Number and Date if ISO certificate not available then put NA	Q60053440001 dated: 05.12.2018
--	--------------------------------

Copies of test Reports/certificates and other certifications to be furnished to	Yes
---	-----

buyer on demand at time of supplies

**Additional Specification Parameters –**

Specification Name	Allowed Values
Mattress Base Height Range	Should be 350mm to 700mm with Safe Working Load of 230 kg
Patient control panel	Integrated Patient control panel with Back and knee raise functions at both the inner sides of the head end side rails should be provided
Mattress Structure	The mattress base structure made of Removable Polypropylene Boards and divided into four sections – back, hip, knee and foot.
CPR functions	Dual Side Electric and Manual CPR functions.
Locking System	Anti-Tampering Lock in side rails to prevent patient fall should be provided

- \*NOTE: 1. FOR Medical Colleges under DME in Karnataka  
2. Products should be supplied with 3 years of warranty

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

## Infusion Pump

### Performance Parameters

Type of Infusion Pump	Syringe Infusion Pump
Technology (of operation)	Programmable Mode
Flow rate Range with increment in ml/hr	0.1 to 240 ml/hr(10 ml syringe)
Infused Volume Range in ml	0.1-999(0.1 ml/hr increment)
Flow rate & volume	flow rate & volume to be infused should be configured to limit the maximum allowable range
KVO (Keep Vein Open) Rate in ml/hr	5
Accuracy in %	2
Bolus Type	Bolus without volume pre-selection
Bolus Rate Range in ml/hr	1-1200ml/hr for syringe based infusion pump
Bolus Volume in ml	0.1-99.9/500 ml
Display Type	LCD



Size of Display (length x width) (mm x mm)	66mm x 33mm
Contents of Display	Occlusion Level, Syringe Size, Syringe Brand, Drug Name, Set Flow Rate, Infused Volume,
Alphanumeric Programming Key Board	Yes
Operating and Transportation Temperature range	05 to 40 degree Centigrate
Humidity Conditions (operating and transport & storage) (15 to 90%)	YES
Pressure Conditions(operating and transport & storage) (50 to 106 kpa)	YES
Power sources	Battery operated
Battery Type	Rechargeable NiMH
Battery Rating	1300 MAH
Battery run time at normal delivery rate in hours	8 hour
Battery run time at highest delivery rate in hours	2-3 hrs
Battery recharge time (full charge) in	8 hour

hours

Power Supply 220-240 V AC, 50 Hz) (3 wire grounded system) YES

Electrical Protection (Class I, Type CF) YES

Fuse Type 220V 2A\*2, 12V 2A\*2

Maximum Power Consumption in watt 12 Watt

Fitting of device on the IV bottle and bag No

IR Sensor to detect the abnormality in IV Bag or bottle No

Audible and Visual alarm facility Should have an audible and visual alarm with automatic pump stop function for the following : pressure drop, air standby, volume infused, door open, battery Pre-alarm, recall, invalid rate, empty etc

Availability of Infusion mode setting(rate mode,drip mode,wait mode,time mode) Yes

Protection against fluid ingress - IP\*1 - Protected against vertically falling drops of water YES

Capability of Motioning of empty Intravenous bags or bottles Yes

Warranty in Years 3

### Dimensional & Material Parameters

Dimension (Excluding power cables)(mm x mm x mm) 130 x 183 x 115

Weight(with clamp base)in kg 1.8 kilogram

Material (Outer Shell) ABS PLASTIC

### Additional Parameters

Pole clamp Multi-function mounting clamp YES

Quick titration of rate or dose with volume timing programming YES

Compatible with any standard (PVC) infusion sets available in local indian market YES

Features : compatible with all standard syringes (b) excellent injection function and operation, even small volume injection is accurate (c) dual cpu monitoring function (d)accurate and sensitive pressure sensor detects occlusion pressure accurately (e) smart pulsation compensation function

No of infusion sets supplied with the single unit 0

Packing (Individual) YES

## Reports

Type tests reports from a Central Govt lab OR International Laboratory Accreditation Cooperation (ILAC) or their worldwide affiliated/ recognized labs OR NABL approved lab YES

Test Report No 9001: & 13485

Test Report Date 01-07-2019

Name and complete address of the Lab United Accreditation Foundation Inc,

Copy of certificates to be provided to buyer on demand after placement of order (Applicable if availability of test report indicated as YES, otherwise put NA) YES

Sr. No	Additional technical Specification
1.	Pumps Max infusion rate must be 2000 ml/hr.
2.	Pump must have 100 ml syringe size detection.
3.	Must Have Graphic LCD display Min size of 66 mm X 33 mmm for Rate, Drug name, battery status, occlusion level, syringe size, syringe brand, Actual pressure indicator etc display at a glance
4.	Pump must have Body weight & Profile Mode.
5.	Pump Must have Capacitive Touch Keypad.
6.	Must have Pressure monitoring system for Occlusion alarm. Selectable Occlusion pressure trigger levels from 100- 900 mmHg with a choice to select the default setting by the operator in steps of

50 mmHg. Facility to display the actual pumping pressure in numeric as well as graphical form.

7. Device is produced by ISO 13485 certified manufacturer (certificate to be submitted).

- \*NOTE: 1. For medical College under DME in Karnataka  
2. Products should be supplied with 3 years of warranty

*W. S. Srinivas*  
*R. S. Srinivas*  
*P. Srinivas*

*Srinivas*

Sl. No.	Quantity required
1	Oxygen Flowmeter
2	Ambo Bag- Different Sizes (500ml)
3	Ambo Bag- Different Sizes (250 ml)
4	Oxygen Hood

## 1. Oxygen Flow meter

1. Usage: Oxygen Cylinder
2. Flow Rate: 0-15 L/min
3. Tube Cover Material: Borosilicate Glass.
4. Body material: Stainless Steel
5. Accuracy (Flow rate): +- 3%
6. Display: Analog
7. Usage/Application: Medical

## 2. Ambo Bag 500ml

### Features & Specifications: 500 ml

- Capacity 500 ml.
- Self-inflating Double Ended Silicone Bag with Mounts.
- In built reservoir valve and side oxygen inlet.
- L type non-rebreathing valve with 40 cmh<sub>2</sub>O safety pop off valve. Lockable pop off valve.
- Mask size 01 circular pediatric all silicone face mask.
- 1.5 mtrs. Oxygen Tubing and 2600ml for 100% oxygen Enrichment.
- Autoclavable Bag, mask and Valve.
- Packed in a carrying pouch.

## 3. Ambo Bag 250ml

### Features & Specifications: 250 ml

- Capacity 250 ml. for patient between Pre-Term & 7 kgs.
- Self-inflating Double Ended Silicone Bag with Mounts.
- In built reservoir valve and side oxygen inlet.
- L type non-rebreathing valve with 40 cmh<sub>2</sub>O safety pop off valve. Lockable pop off valve.
- Mask size 0 circular neonatal all silicone face mask.
- 1.5 mtrs. Oxygen Tubing and 600ml for 100% oxygen Enrichment.
- Autoclavable Bag, mask and Valve.
- Packed in a carrying pouch.

#### 4. Oxygen hood

1. Ergonomically designed Oxygen Hoods makes it a must for every NICU, PICU, and Pediatric Ward.
2. Stable heavy so that it stays in place with an active baby.
3. Ideal round shape & flat top enhances visibility & gives optimum circulation of Oxygen.
4. Made up of high grade unbreakable Polycarbonate.
5. Zero projecting parts i.e. no hinges, hand ports, joints, nut bolts etc. makes it easy for cleaning and disinfection.
6. Easy to clean, Autoclavable, soft neck adjustment part made up of Silicone rubber.
7. Unbreakable, Autoclavable Twin Deflector Oxygen Inlet Nozzle.
8. Sizes Available Small / Infant, Medium / Neonate & Large / Pediatric.
9. 100% (Fully) Autoclavable with the flaps and nozzle.

\*NOTE: 1. For all the medical colleges under DME  
2. Products should be supplied with 3 years of warranty

*Handwritten signatures and initials:*  
RS  
[Signature]  
[Signature]  
[Signature]



## **1. Thermo Scanner/Thermometer**

1. Type of Thermometer Contact Type Multifunction Infrared Thermometer (Ear and Forehead Thermometer)
2. Temperature display unit Degree Celsius & Degree Fahrenheit
3. Backlit Display: Yes
4. Features available Interchangeable Celsius & Fahrenheit modes, Low battery indicator, Auto power on, Trigger/Button for operation, Auto power off when not in use, Display of previous reading on screen with current reading, Sound indication when the thermometer is ready to take or show the temperature, Audible alarm for fever, Different backlight colours to differentiate between the fever ranges, Silent mode, Auto hold function, Waterproof lens easy to clean and disinfect, Data transfer facility of other devices through USB / Bluetooth / WiFi / RS 232, Limit value for the adjustable alarm as programmable
5. Power source Rechargeable Battery

## **2. Mercury BP Apparatus**

6. Usage/ Application: Used for measuring Blood Pressure
7. Measurement range: 0 to 300mm Hg
8. Accuracy: 0.01 (pressure )
9. Cuff circumference: 22-42 cm
10. Weight: 500 gms
11. Type: upper arm
12. Should be supplied with paediatric and neonatal cuff

## **3. Ophthalmoscope**

1. It Should be useful to examine retina
2. Apertures to be provided Slit, fixation, large circle, medium circle, small circle
3. Red free filter should be provided
4. Dust proof cover should be provided
5. Dioptre adjustment should be provided:- -20 to +20 dioptre
6. Battery Operated as well as rechargeable

## **4. Otoscope**

1. Fiber Optic (F.O.) illumination
2. Modern pocket otoscope
3. Port for pneumatic testing
4. 2.5V - Battery Handle + Disposable Tips

**5. Laryngoscope with different blades and stand**

1. Fibre optic Laryngoscope all sizes, to view the vocal cords and glottis and to facilitate tracheal intubation
2. LED light source
3. Stainless steel
4. Bulb on the handle

**6. Video Laryngoscope**

5. CMOS Camera should be provided
6. 2.0 M Pixels Resolution of camera with anti-fog lens
7. LCD Display anti shatter protection to be provided
8. Movable stand to hang the screen to be provided
9. Rechargeable Battery
10. Lithium Battery
11. Battery backup should be 3hrs. or more
12. Protection cap to be provided
13. Size of Blades: 1, 2, 3, 4, 5

\*NOTE: 1. For all the medical colleges under DME

2. Products should be supplied with 3 years of warranty

*Handwritten signature*

*Handwritten signature*

*Handwritten signature*

## SPECIFICATION FOR AUTOMATED BLOOD GAS ANALYZER WITH ELECTROLYTES

- The analyzer should be fully automatic and should be able to measure Blood gas (pH, pO<sub>2</sub>, pCO<sub>2</sub>) and electrolytes (Na<sup>+</sup>, K<sup>+</sup>, Ca<sup>++</sup>, Cl<sup>-</sup>) and lactate.
- The analyzer should be capable to perform only pH with Electrolytes; Separate consumable should be available to perform without using Blood gas for using the same analyzer as backup for Electrolytes.
- Sampling: By automated probe aspiration.
- The instrument should be operated with multiple disposable test cartridge / cassettes.
- The cartridge / cassettes should have variable pack sizes from minimum of 25 tests to 300 tests. Option to use up to 1200 Tests/month
- Consumables should have minimum 60 days onboard life for smaller packs consumables 25 tests to 300 tests.
- The Cartridge / Cassette should have In-built Aspiration Probe and Peristaltic Pump
- Instrument should have facility for user to watch "The movement of sample from aspiration to disposal in waste"
- Analyzer should have minimum onboard test capacity of 25 test to maximum 600 tests
- The system should be small and portable and easy to carry
- Analyzer should have automated entry and logging of consumables
- Analyzer should have a start-up time of 8~ 10minutes
- Analyzer should have large touch screen facility and optional for key board operation
- Analyzer should have data back-up facility option with USB ports
- Analyzer should be able to measure all parameters with 60 ~75microL
- Sample measurement time: max 60 seconds and sample to sample cycle time max 120 seconds
- Analyzer should have integrated printer to support result output.
- The analyzer should perform samples like: whole blood and other fluids.
- Analyzer should have on screen display of Levy-Jennings plot.
- Analyzer should detect air-in sample
- The manufacturer should provide remote support and 24\*7 helpline number to ensure maximum up time of the analyzer.

\*NOTE: 1. FOR anywhere in Karnataka

2. Products should be supplied with 2 years of warranty

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

Equipment/Consumables Name	
1	Thermo Scanner/Thermometer
2	BP apparatus Paediatric Cuff
3	BP apparatus NeonatalCuff
4	Ophthalmoscope
5	Otoscope
6	Laryngoscope with different blades and stand
7	Video Laryngoscope

*Dr. S. S. Srinivasan*

*R. S. Srinivasan*

*P. Srinivasan*

*B. Srinivasan*

## **1. Thermo Scanner/Thermometer**

1. Type of Thermometer Contact Type Multifunction Infrared Thermometer (Ear and Forehead Thermometer)
2. Temperature display unit Degree Celsius & Degree Fahrenheit
3. Backlit Display: Yes
4. Features available Interchangeable Celsius & Fahrenheit modes, Low battery indicator, Auto power on, Trigger/Button for operation, Auto power off when not in use, Display of previous reading on screen with current reading, Sound indication when the thermometer is ready to take or show the temperature, Audible alarm for fever, Different backlight colours to differentiate between the fever ranges, Silent mode, Auto hold function, Waterproof lens easy to clean and disinfect, Data transfer facility of other devices through USB / Bluetooth / WiFi / RS 232, Limit value for the adjustable alarm as programmable
5. Power source Rechargeable Battery

## **2. Mercury BP Apparatus**

6. Usage/ Application: Used for measuring Blood Pressure
7. Measurement range: 0 to 300mm Hg
8. Accuracy: 0.01 (pressure )
9. Cuff circumference: 22-42 cm
10. Weight: 500 gms
11. Type: upper arm
12. Should be supplied with paediatric and neonatal cuff

## **3. Ophthalmoscope**

1. It Should be useful to examine retina
2. Apertures to be provided Slit, fixation, large circle, medium circle, small circle
3. Red free filter should be provided
4. Dust proof cover should be provided
5. Diopetre adjustment should be provided:- -20 to +20 diopetre
6. Battery Operated as well as rechargeable

## **4. Otoscope**

1. Fiber Optic (F.O.) illumination
2. Modern pocket otoscope
3. Port for pneumatic testing
4. 2.5V - Battery Handle + Disposable Tips

**5. Laryngoscope with different blades and stand**

1. Fibre optic Laryngoscope all sizes, to view the vocal cords and glottis and to facilitate tracheal intubation
2. LED light source
3. Stainless steel
4. Bulb on the handle

**6. Video Laryngoscope**

5. CMOS Camera should be provided
6. 2.0 M Pixels Resolution of camera with anti-fog lens
7. LCD Display anti shatter protection to be provided
8. Movable stand to hang the screen to be provided
9. Rechargeable Battery
10. Lithium Battery
11. Battery backup should be 3hrs. or more
12. Protection cap to be provided
13. Size of Blades: 1, 2, 3, 4, 5

\*NOTE: 1. For all the medical colleges under DME

2. Products should be supplied with 3 years of warranty

*[Handwritten signatures]*

## Specification for Defibrillator

### Standards

**Conformity to Certification (In case of EU CE/CE European certification from notified body)**

European CE

**Certification number and date**

G1140436155028 DT. 21 JULY,2014

**Conformity to Manufactures Certification**

ISO 9001 & ISO 13485

**Conformity to Safety Standards**

IEC 60601-2-4 or Equivalent BIS

### Performance Parameters

**Capability parameter of defibrillator**

ECG Monitoring , defibrillation

**Technology of defibrillator**

Biphasic technology

**Modes in defibrillator**

Automated external defibrillation and manual

**Maximum energy selection in joules**

200

<b>Capability of ECG Monitoring</b>	ECG leads , multi function electrodes , paddles
<b>Number of wave-forms</b>	3
<b>Patient compatibility to defibrillate</b>	Adult ,pediatric patients
<b>Type of display</b>	TFT
<b>Size of display screen in inch</b>	7
<b>Provision to display ECG waveform on bright high resolution display</b>	Yes
<b>Facility to have synchronized cardio version</b>	No
<b>Ability to display CPR index on screen real time</b>	No
<b>Ability to filter out CPR artefacts to see organised rhythms without interrupting chest compression</b>	No
<b>Provision of within built rechargeable battery</b>	Yes
<b>Battery backup to deliver number of shocks at maximum energy</b>	100



<b>Weight of defibrillator with battery and paddles in Kg</b>	6.7
<b>Provision of in built recorder</b>	Yes
<b>Provision of printing ECG trace &amp; stored information</b>	Yes
<b>Facility of External non-invasive pacing</b>	No
<b>Type of external transcutaneous pacing modes</b>	Both Demand mode and fixed mode
<b>Pulse width of External non-invasive pacing in milli seconds</b>	NA
<b>Ability to measure chest compression rate and depth in real time with visual feedback on screen with rate and depth indicator</b>	Not Provided
<b>Facility to monitor EtCO2</b>	No
<b>Facility to monitor NIBP</b>	No
<b>Facility to monitor SPO2</b>	No
<b>Upgradability to monitor EtCO2</b>	Yes

<b>Upgradability to monitor NIBP</b>	Yes
<b>Upgradability to monitor SPO2</b>	Yes
<b>ECG monitoring</b>	Using 3 lead
<b>Provision of user selectable alarm settings</b>	Yes
<b>The machine should work on mains as well as on rechargeable battery</b>	Yes
<b>Ability to select energy from paddles</b>	Yes
<b>Ability to charge and discharge through paddles as well as from main unit</b>	Yes
<b>Facility for internal defibrillation</b>	No
<b>Charging time for maximum energy in seconds</b>	6
<b>Mechanism of self test of unit</b>	Automatic and manual
<b>Unit should do self test with facility to give printout of defibrillator testing report and also have code ready indicator on unit</b>	Yes

<b>Provision of stainless steel trolley with lockable castors</b>	No
<b>Suitability of defibrillator for transport on ground (ambulance)</b>	No
<b>Defibrillator suitable to use at high altitudes and in air craft</b>	No
<b>Defibrillator should display selected energy</b>	Yes
<b>Defibrillator should display delivered energy</b>	Yes
<b>Suitability of defibrillator for transportation in air (aircraft)</b>	No
<b>Availaibility of suitable protection for dust and water</b>	Yes
<b>Accessories</b>	
<b>Li-ion Battery</b>	1
<b>ECC cable</b>	1
<b>NIBP pediatric cuff with hose</b>	Not provided

NIBP adult cuff with hose Not provided

Reusable airway adaptor to be used with ETCO2 main stream / side stream sensor and cable Not provided

Disposable airway adapter with EtCO2 mainstream sensor and cable Not provided

External defibrillator paddles (pediatric in built in adult) 1

Multi Function Defibrillator & Monitoring pads/gel sheets Not provided

Recorder paper roll Not provided

Reusable CPR feedback sensor/or similar product reused Not provided

### Miscellaneous Parameters

Warranty (Option of comprehensive warranty is available through bidding only, which if opted will supersede normal warranty in the catalogue) 1

Original User / Technical manuals to be supplied in English in hard and soft copy Yes

**Original copy of operating and service manuals to be supplied in English in hard and soft copy** Yes

**Calibration and preventive maintenance certificate has to be provided as per requirement** Yes

**Installation, Demonstration and training to be provided at consignee end at any part of country** Yes

**The Principal Manufacturer Must Have Direct Presence/approved service center In India** Yes

**Advanced maintenance task required shall be documented and procedures required for local calibration and routine maintenance and list of imp spare parts with accessories along with part numbers to be furnished** Yes

**Availability of toll free facility for technical support maintained by OEM or authorized agencies** Yes

**Provide Certificate from the principal that spare parts will be available from next 10 years at the time of supplies to the buyer** Yes

**Copies of all certifications to be provided to buyer on demand at time of supplies** Yes

Accessory Rail Provided at all four side of bed	Yes
Mattress provided with ICU bed	Yes
ICU mattress must X-ray translucent	Yes
Mattress foam of the Bed should be with Anti Microbial agent incorporated into all components that assists in Prohibiting growth of bacteria & fungi and easy to clean	Yes
Mattress shall be made of High resilient & bio-density foam	Yes
Mattress should be translucent to allow radiography using portable X-ray machines	Yes
Mattress should be made in cube cut design & independent cubes promote air flow to reduce moisture	Yes
Material for ICU Bed Mattress	PU Foam
Maximum thickness of Mattress in mm with tolerance of $\pm 2$ mm	100
Approx foam Density for Head/sacrum in kg/m <sup>3</sup> tolerance	40

## Additional Terms and Conditions

- It should have IP54 safety rating
- It should be upgradable NIBP, SPO2 and ETCO2
- It should have ready for use indicator. It should work even in switch off mode
- It should perform hourly, daily, weekly basis self-test. Self-test report can be printed when required
- It should have patient contact indicator for proper shock delivery
- It should be smart bi phasic defibrillator- less than 5sec for 150 Joule, less than 6 sec for 500 Joules
- It should be upgradable to internal defibrillation through swift internal paddle of different sizes to cater adult and paediatric

\*NOTE: 1. For the medical colleges under DME in Karnataka  
2. Products should be supplied with 3 years of warranty

*Dr. S. S. Srinivas*  
*R. S. Krishna*  
*V. S. Srinivas*  
*R. S. Srinivas*

Equipment/Consumables Name	
1	Crash Cart
2	Patient Trolley
3	Wheel Chair
4	Over Head Table
5	Bedside Locker
6	Over Bed Table
7	Bedside Stool
8	Dressing Trolley
9	Drug trolley/Medicine trolley
10	Instrument Trolley
11	X Ray View Boxes



## **1. Crash cart**

1. Overall approx. size 960 L x 500 W x 1545 H mm
2. Frame work made of SS tubes
3. Two light weight polystyrene boxes each with 3 drawers.
4. Upper drawer with medicine container of different sizes
5. Provision to hold oxygen cylinder made up of M.S
6. Massage board for cardiac patient
7. Six number colour hand out small bins at eye level.
8. Total 3 SS shelves with railing to carry medical equipment
9. Provided with SS. shelves I.V rods , corner buffers
10. The cart mounted on 125mm dia. castors with 2 brakes

## **2. Patient Trolley**

1. Type: manual
2. Frame Material: Stainless steel
3. Mattress material: Lather
4. Number of Wheel: 4 Wheel
5. Material: Aluminium Alloy

## **3. Folding Wheel chair**

1. Made of CRCA 18 gauge pipe
2. 8" front wheel 24" rear wheel with grip ring
3. Comes with durable canvas cloth
4. Nylon material foot rest.
5. Cushion plastic arm rest.
6. Easy to fold and open mechanism

## **4. Overhead table**

1. Size: 30" X 16"
2. Finishing Epoxy powder coated
3. Frame shape: Rectangular
4. No of Wheel: 4
5. Adjustable: Yes
6. Top material: Wooden
7. Frame material: iron

## **5. Bed Side locker**

1. Made of CRCA sheet 24 gauge
2. SS 202 top made of 24 gauge
3. Epoxy powder coated finish

4. PVC leg srumps on all corners
5. Cabinet size 350 X 350 X 275mm
6. Heavy build quality

#### **6. Over bed table / Cardiac table knob**

1. Made of HRCA Tublar pipe
2. Pre Laminated Wooden top
3. Adjustable knob mechanism
4. 2" Castor wheels
5. Finished with epoxy powder coating
6. Adjustable height upto 49"

#### **7. Bed Side Stool**

1. SS rounded top
2. MS Screw based lifting mechanism
3. Easy to lift by rotating the in clockwise position
4. Epoxy powder coated finish
5. PVC Stumps in 4 legs

#### **8. Dressing trolley**

1. Made of SS 202 sheet and pipe
2. 18 gauge pipe and 24 gauge sheet
3. 100mm swivel castors with 2 brake and 2 non brake
4. 12mm railing both shelve
5. 1 bowl and 1 bucket for dressing waste.

#### **9. Medicine Trolley**

1. Made of CRCA 22 gauge sheet
2. 100mm swivel castor with 2 brake and 2 non brake
3. SS 202 24 gauge SS top on both compartments
4. 4 slider drawer with individual handles.
5. Epoxy powder coated finish
6. Border railing on both sides.

#### **10. Instrument Trolley**

1. SS 202 frame work
2. 100mm Swivel castor with 2 brake and 2 non brake
3. SS 202 18 gauge pipe and 24 gauge sheet
4. 12mm border railing on both shelves for preventing things to drop
5. SS hairline finish.

### 11.X Ray View Box

1. Number of Panels: 2. double panel
2. Single Panel suitable for viewing minimum sheet size of: 355mm X 432mm
3. Luminance (Cd/square meter): 3500
4. Material of the Front viewing screen: High quality Polymethyl Methacrylate (PMMA)
5. Power Consumption: less than 24 Watt (for double panel)
6. Overall thickness of the illuminator (mm): 23 millimetre
7. The film Visible Size (LXH): It should be 751X432 mm.
8. Power Consumption: It should be  $\pm 40W$
9. Brightness feature: It should be adjustable, 0-9 step digital dimmer
10. Light Color temperature: It should be 10000\*K or more
11. Switch/button: Separate on/off and separate switch to adjust brightness
12. Sensor: Automatic sensor is required for film
13. Spare part availability certificate: Required for 03 years

- \*NOTE: 1. For all the medical colleges under DME  
2. Products should be supplied with 3 years of warranty

*[Handwritten signatures and text, including "R. S. K. Srinivas" and "R. S. K. Srinivas"]*

## PORTABLE ULTRASOUND WITH ECHO ( Adult )-

### Standards

Product certification	EU-CE (with notified 4-digit number)
Certification number and date	TW17/00125 25-January-2017
Conformity to Manufacturer's Certification	ISO 9001 AND ISO 13845 BOTH
Conformity to Performance and safety standards specific to the device	IEC 60601-2-27 or equivalent BIS

### Performance Parameters

Product Description	Cardiac ultrasonic scanning systems
Scope of supply	Cardiac ultrasonic scanning systems are designed for real-time, noninvasive assessment of heart structures and function. They are used to evaluate cardiac wall motion and valve function to detect such conditions as mitral valve prolapse and aortic valve stenosis, to determine the extent of damage from suspected myocardial infarction, and to diagnose congenital cardiac defects
UMDNS Code and names(Hint: This is for indicating the relevant universal medical devices nomenclature for the category of prouct )	Scanning Systems, Ultrasonic, Cardiac [17-422] Scanning Systems, Ultrasonic, Intravascular [17-746]V

### Types Of Probes & Features

Echocardiography Scanning System should have an option of Cardiac (adult, pediatric), intraoperative, small organs, TEE, vascular	YES
Cardiac and Vascular Probes Configuration	TTE AND LINEAR
TTE Probe Type	Adult
Adult TTE probe Frequency in MHz	3-5 MHz ( $\pm 2$ )
Pediatric TTE probe Frequency in MHz	5-7.5 MHz ( $\pm 2$ )
TEE Adult Probe biplane and Multiplane frequency, in MHz	Not Applicable
TEE Pediatric Probe Supplied	No
TEE Pediatric Probe frequency, in MHz	Not Applicable
Linear Probe for linear/ vascular applications	Yes
Adult/Pediatric Linear probe frequency in MHz	5-10MHz ( $\pm 1$ )
No of Adult TTE Probes supplied	1
No of Pediatric TTE Probes supplied	NA

No of Adult TEE Probes supplied	NA
No of Pediatric TEE Probes supplied	NA
No of Adult/pediatric Linear Probes supplied	1
Dedicated 3D/4D volume imaging for cardiology TTE ad TEE	No
Live 3 D imaging in color doppler system	No
Colour Doppler system with all application packages ,Quad loop for serial studies with high frame rate revies, harmonic imaging capability in all modes and integrated stress echo package digital storage and retrieval	No
Number of grey shades for sharp contrast resolutions in db	256 Or more
High-definition acoustic zoom provision for enlarging sections of 2D and Colour flow images with more acoustic information for greater clarity and detail while maintaining an optimal frame rate	YES
Colour Flow Imaging Optim	YES
Provision of Tissue Colorization (B-Colour) for improved contrast resolution	No

Application software Adult, Pediatric & Vascular applications

All application packages should be inbuilt into the system YES

Cine Loop Features Yes

Cine Loop Memory in Frames 200

Frame grabber facility for post analysis No

Facility of Various maps for pre and post processing Yes

ECG trigger facility No

User defined system and application presets for multi-user department YES

"Dedicated integrated dynamic stress echo package for flexible user defined protocols with stacked sub loops facility and contrast stress protocol usable for stress echocardiography" No

Provision of Tissue movement colorization with quantification possibility for IHD/CAD/Heart Failure patients YES

Number of transducer/probe ports 3

## Scan Modes And Performance Parameters

Cardiac 3-D freehand Option	No
Cardiac 3D/4D automatic Option	No
B-mode	YES
M MODE	YES
Contrast Harmonic/Agent Imaging with angio mode	No
Tissue harmonic imaging mode	YES
Provision of Harmonic imaging in TTE, TEE and Linear Probes	No
Color Doppler imaging (CDI)	YES
Color Doppler 3-D/4-D option	No
Power Doppler imaging (PDI)	YES
Power Dopple 3-D/4-D option	No
Continuous wave	YES



Pulsed wave	YES
Duplex mode	YES
Triplex mode	YES
Tissue Doppler imaging	YES
Contrast-enhanced ultrasound (CEUS) option	No
Tissue synchronization, tissue velocity	No
Cardiac Shear wave elastography	No
Cardiac compression elastography	No
Gain control in two dimensions for additional level of flexibility for image quality control	YES
"Provision for higher resolution "	Real time high frequency 2D
Probes supplied shall be in latest generation bandwidth	YES
Provision for higher sensitivity for low frequency doppler in all probes	Yes

Latest generation Electronic Phased/sector array Colour Doppler system	Yes
Number of Channels in color doppler system	50000 or more (If channels are being designated as digital channels)
System should be capable of generating real time live 3- D images	NO
Provision of Echocardiographic strain and strain-rate imaging with 2 D imaging	No
Provision of Echocardiographic strain and strain-rate imaging with 3 D imaging	No
<b>Image Display And Processing</b>	
DICOM THREE POINT ZERO COMPLIANT	Yes
Adjustable transmit focus	YES
Automated B-mode (2-D) image	Yes
Automated CDI image optimization	No
Automated PW Doppler image optimization	No
Dynamic receive focus	YES

Grayscale levels	256
Image magnification (zoom)	YES
Real-time image	YES
Frozen image	YES
TOUCH SCREEN	YES
HIGH RESOLUTION MONITOR	YES
"Provision of Tilt and Swivel monitor should be able to view in all angles and all light conditions"	YES
Monitor display size, cm (in)	12 Inch( $\pm 1$ )
Split screen	TWIN VIEW
Single/dual monitors	SINGLE
Depth, cm	$\geq 30$ (11.8)
PREPROCESSING	YES
POST PROCESSING	YES

SELECTABLE DYNAMIC RANGE	YES
SPECTRUM ANALYZER	YES
DIGITAL IMAGE STORAGE	YES
CINE LOOP PLAYBACK	YES
Max number frames	300
HARD DRIVE STORAGE CAPACITY , GB	>=500 GB
Speckle-tracking strain and strain rate	No
Stress echo	No
EXAM PROTOCOL	YES
Analysis and calculation packages	NO
Automated	YES
Digital calipers	YES
EXAM PRESETS	YES

Customizable presets	YES
On-screen annotation	YES
DVD/CD Writer	No
Flash Memory	YES
USB connector	YES
Type of printer provided with the echo cardio machine	THERMAL PRINTER
"Facility for high definition digital acquisition, review and editing of complete patient studies"	YES
Connectivity to PC and Echo cardiography machine	THROUGH IMS SOFTWARE
Provision of PC with echo cardio gram machine	No
Type of processor	NA
RAM capacity of PC in GB (hint: In caase PC not provided put zero)	NA
Processor speed in GHZ	NA

Frame Grabber incorporated	No
Conectivity between Echo cardiogram and PC	NA
PC with all software inclusive interfaced with echocardiograph machine	NA
laser Color printer provided with computer for rerporting	No
Inkjet printer provided with computer for reporting	No
CD/DVD Produced should be playable on any system	No cd/dvd Writer provided
Glossy Colour Print Paper supplied	Not provided
ECG Cable	NA
Echo cardiography sytem to be DICOM Ready	Yes
Dicom Interfacability to HIS	No
Dicom Interfacability Dicom to PACS	No
Interfacability Dicom to RIS	No

Echo Cardiography sytem supplied should be upgradable to next generation system on site YES

### Power Requirments

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

Resettable over current breaker shall be fitted for protection No

Power bakup INBUILT BATTERY

Back up time in minutes 60

Suitable Servo Controlled Stabilizer / CVT should be provided YES

### Miscellaneous Parameters

Warranty (Option of comprehensive warranty is available through bidding only, which if opted will supersede normal warranty in the catalogue) 3

Number of installations of the echo cardiogram machines in Central /State/PSU Govt Hospitals( Note: Seller should supply a performace certificate of the device to the buyer if demanded after placement of order) MORE THAN 3

User/Technical/Maintenance manuals to be supplied in English in hard and soft YES

copy

Demonstration of equipment and training to be provided after completing supplies & Installation before acceptance YES

The Principal Manufacturer must have direct Presence/approved service center In India YES

Copies of reports and certifications to be furnished to buyer on demand at time of supplies YES

Attach certificate from the principal that spare parts will be available for next 10 years YES

QA, QC Or other Calibration tests(6 months/ 1 year as per NABH/JCI) YES

Additional Specification Parameters –:

Probe configuration per unit:

1. Adult Echo Probe
2. Linear Transducer

\*NOTE: 1. FOR Medical Colleges under DME  
2. Products should be supplied with 3 years of warranty

*Handwritten signatures and initials:*  
R. S. Bhatnagar  
R. S. Bhatnagar  
R. S. Bhatnagar  
R. S. Bhatnagar



**Technical Specifications for Comprehensive Bedside Monitoring for ICU, PICU & NICU (Total nos of Monitors 640 nos. for ICU+160 nos for PICU+190 nos for PICU/NICU=990 nos.)**

S.No.	Specifications as per tender
1	Should have ECG, SpO <sub>2</sub> , NIBP, Respiration, invasive pressure x2, temperature and Mainstream ETCO <sub>2</sub>
2	Monitor must be upgradable to have Minimal Invasive Continuous Cardiac Output, micro-stream ETCO <sub>2</sub> , BIS and GAS monitoring through interchangeable modules.
3	Should display at least 08 waveforms channels of selected parameters simultaneously.
4	Should have inbuilt continuous battery backup through lithium -ion battery of minimum four hours; upgradable to 6 hours
5	Display: Color TFT display size of 12" or more.
6	Should have dual temperature monitoring either in Celcius or Fahrenheit.
7	Should have facility for displaying multi-screen configurations
8	Should be able to store & display at least 240 hours of tabular & graphical trends of all parameters. Minimum 200 events recalls with 3 waveforms snapshots should be provided as standard. Should also have an option for full disclosure of waveforms for minimum 48 hours.
9	Should be suitable for monitoring adult & pediatric & neonate patients
10	The SpO <sub>2</sub> technology should be Masimo SET or FAST SpO <sub>2</sub> so as to sense in hypotension, shivering & motion. (Strictly Masimo SET technology for NICU monitors).
11	Should have oscillometric Technology for measurement of NIBP with Auto, STAT and Manual modes.
12	Should have different patient type selection
13	Should have PPV (Pulse Pressure variation) as standard when connected to IBP.
14	The respiration rate should be calculated through Impedance method.
15	Should be able to analyze arrhythmias & ST segment changes. Monitor should be upgradable to monitor 12 lead ECG with ST segment representation in easily readable graphical form.
16	Should be able to give visual & audible alarms with three levels of volume adjustment.
17	Should have connectivity to Central station through Ethernet card or Wireless Connectivity. Manufacturer firm should have same make system/ solution to upgrade integration of these monitors with other ICU devices such as syringe pumps, ventilators, ABG machines, Heart & Lung machines, dialysis machines etc. along with US FDA approved automated electronic charting system.
18	Monitor must have an option for Non-invasive Hemoglobin monitoring.
19	Monitor must have facility to have bed-to-bed overview through LAN without connecting to a central station.
20	Should be European CE and USFDA 510K approved.
21	Warranty: Two years on equipment from the date of installation
22(a)	<p><b>Accessories with each monitor for Adult ICU (Total nos. of monitors: 640 nos.):</b></p> <ul style="list-style-type: none"> <li>- 3 lead ECG cable x 01 no.</li> <li>- Reusable Adult NIBP Cuff x 01 no.</li> <li>- Reusable NIBP Hose pipe x 01 no.</li> <li>- Reusable Adult SpO<sub>2</sub> sensor x 01 no.</li> <li>- Reusable Esophageal Temperature probe x 01 no.</li> </ul>

	<ul style="list-style-type: none"> <li>- Reusable Mainstream ETCO2 sensor x 01 no.</li> <li>- Reusable Mainstream ETCO2 Adult adapter x 01 no.</li> </ul>
22(b)	<p>Accessories with each monitor for Pediatric ICU/PICU (Total nos. of monitors: 160 nos.):</p> <ul style="list-style-type: none"> <li>- 3 lead ECG cable x 01 no.</li> <li>- Reusable pediatric NIBP Cuff x 01 no.</li> <li>- Reusable NIBP Hose pipe x 01 no.</li> <li>- Reusable pediatric SpO2 sensor x 01 no.</li> <li>- Reusable Esophageal Temperature probe x 01 no.</li> <li>- Reusable Mainstream ETCO2 sensor x 01 no.</li> <li>- Reusable Mainstream ETCO2 pediatric adapter x 01 no.</li> </ul>
22(c)	<p>Accessories with each monitor for Pediatric ICU/NICU (Total nos. of monitors: 190 nos.):</p> <ul style="list-style-type: none"> <li>- 3 lead ECG cable x 01 no. with disposable pre-attached leadwire set (set of 3): 10 nos.</li> <li>- Reusable pediatric NIBP Cuff x 01 no.</li> <li>- Reusable Infant NIBP cuff x 01 no.</li> <li>- Reusable NIBP Hose pipe for reusable cuff x 01 no.</li> <li>- Disposable NIBP cuff of size 1,2,3 &amp; 4: 05 nos. of each</li> <li>- NIBP interconnect cable for disposable cuffs x 01 no.</li> <li>- Reusable original Masimo SpO2 sensor with wrap around x 01 no.</li> <li>- Reusable infant/neonatal Esophageal Temperature probe x 01 no.</li> <li>- Reusable Mainstream ETCO2 sensor x 01 no.</li> <li>- Reusable Mainstream ETCO2 infant/neonatal adapter x 01 no.</li> </ul>
23	Installation will be done by supplier free of cost.
24	All the monitors for ICU/PICU/NICU should have similar user interface, modules/ accessories inter-compatibility.

\*NOTE: 1. For all the medical colleges under DME  
2. Products should be supplied with 3 years of warranty

*W. S. B...* *R. S. K...*  
*[Signature]*  
*[Signature]*

Equipment/Consumables Name	
1	Radiant Warmer
2	Phothotherapy
3	Baby Incubator

## 1. Specification for Micro Computer Controlled Radiant Heat Warmer

### Mechanical Specifications:

- Convenient working level with 6 mm thick high-grade collapsible side support accessible from all sides.
- Attached baby cradle accessible from all sides.
- Acrylic baby tray with head up/down facility & foam mattress.
- Tilttable warming source for ease during procedures and taking x-ray.
- Instrument tray and I.V.Pole facility.
- Unit should be mounted on 4 "diameter heavy-duty castors for easy mobility.

### Technical Specifications:

- Power source : 230 V AC, + 10 %, 50Hz.
- Light source : 5 Watt Led to examine babies.
- Heater capacity : Ceramic heaters not less than 600 watts.

(2 ceramic in full length)

- Power consumption : 850 watts at 100% heater power.
- Skin & air temperature displayed on Four LED Display System.
- Should have separate Set Temp. Display for Air & Skin Mode.
- Three modes of warming viz. Skin Air & Manual.
- Programmable heater output & warming time in manual mode.
- Lockable keyboard system.
- Easy read alarm messages on display.
- Stopwatch.
- Reminder timer.
- Apgar timer.
- Alarms:

Skin + 1 <sup>0</sup> C	HI
Skin - 1 <sup>0</sup> C	LO
Air + 1.5 <sup>0</sup> C	HI
Air - 3 <sup>0</sup> C	LO
Skin > 38 <sup>0</sup> C	Ovr
Air >39 <sup>0</sup> C	Ovr
Skin/Air Sensor Failure	Prb

- Safety Cut off:

Skin > 38<sup>0</sup>C

Air > 39<sup>0</sup>C

- Power Failure Audio Visual

## 2. Specification for Double Surface Phototherapy Unit

### Over Head Source Unit:

- Unit has cool blue Led lights with wave length of 450~460nm (Peak 455nm).
- Free of UV & IR radiation.
- Three steps variable Dimming 100% 50% 25%.
- With In-built Digital Timer.
- Mounted on heavy duty castor wheels for easy mobility.
- Adjustable Height & Angle.

### Under Surface Source Unit:

- Unit has cool blue Led lights with wave length of 450~460nm (Peak 455nm).
- Free of UV & IR radiation.
- Three steps variable Dimming 100% 50% 25%.

### Infant Care Trolley:

- Infant Care Trolley with transparent acrylic bed and bubble mattress or baby bed area.
- Convenient working level with 6mm thick high grade collapsible side support accessible from all sides. With head up / down & I.V. stand facility.
- Trolley is mounted on heavy duty castor wheels for easy mobility.
- Fabrication in Mild Steel. Baby bed area is in Stainless Steel.
- Compatible with Radiant Heat Warmer.

## 3. Baby Incubator

- Highly Reliable microcomputer controlled temp. skin control ,air control, & manual control
- Power source: 230 volts: 10%, 50 Hz
- Acrylic canopy with front loading & tour port holes
- Sliding acrylic baby tray, Facility to take X-ray, Mounted on heavy duty castors

\*NOTE: 1. FOR anywhere in Karnataka

2. Products should be supplied with 3 years of warranty

*Handwritten signature*

*Handwritten signature*

*Handwritten signature*

## PORTABLE ULTRASOUND WITH ECHO (Paediatric) -

### Standards

Product certification	EU-CE (with notified 4-digit number)
Certification number and date	TW17/00125 25-January-2017
Conformity to Manufacturer's Certification	ISO 9001 AND ISO 13845 BOTH
Conformity to Performance and safety standards specific to the device	IEC 60601-2-27 or equivalent BIS

### Performance Parameters

Product Description Cardiac ultrasonic scanning systems

Scope of supply Cardiac ultrasonic scanning systems are designed for real-time, noninvasive assessment of heart structures and function. They are used to evaluate cardiac wall motion and valve function to detect such conditions as mitral valve prolapse and aortic valve stenosis, to determine the extent of damage from suspected myocardial infarction, and to diagnose congenital cardiac defects

UMDNS Code and names(Hint: This is for indicating the relevant universal medical devices nomenclature for the category of prouct ) Scanning Systems, Ultrasonic, Cardiac [17-422] Scanning Systems, Ultrasonic, Intravascular [17-746]V

### Types Of Probes & Features

Echocardiography Scanning System should have an option of Cardiac (adult, pediatric), intraoperative, small organs, YES

TEE, vascular

Cardiac and Vascular Probes Configuration	TTE AND LINEAR
TTE Probe Type	Adult
Adult TTE probe Frequency in MHz	3-5 MHz ( $\pm 2$ )
Pediatric TTE probe Frequency in MHz	5-7.5 MHz ( $\pm 2$ )
TEE Adult Probe biplane and Multiplane frequency, in MHz	Not Applicable
TEE Pediatric Probe Supplied	No
TEE Pediatric Probe frequency, in MHz	Not Applicable
Linear Probe for linear/ vascular applications	Yes
Adult/Pediatric Linear probe frequency in MHz	5-10MHz ( $\pm 1$ )
No of Adult TTE Probes supplied	1
No of Pediatric TTE Probes supplied	NA

No of Adult TEE Probes supplied	NA
No of Pediatric TEE Probes supplied	NA
No of Adult/pediatric Linear Probes supplied	1
Dedicated 3D/4D volume imaging for cardiology TTE ad TEE	No
Live 3 D imaging in color doppler system	No
Colour Doppler system with all application packages ,Quad loop for serial studies with high frame rate revies, harmonic imaging capability in all modes and integrated stress echo package digital storage and retrieval	No
Number of grey shades for sharp contrast resolutions in db	256 Or more
High-definition acoustic zoom provision for enlarging sections of 2D and Colour flow images with more acoustic information for greater clarity and detail while maintaining an optimal frame rate	YES
Colour Flow Imaging Optim	YES
Provision of Tissue Colorization (B-Colour) for improved contrast resolution	No



Application software

Adult,Pediatric & Vascular applications

All application packages should be inbuilt into the system YES

Cine Loop Features Yes

Cine Loop Memory in Frames 200

Frame grabber facility for post analysis No

Facility of Various maps for pre and post processing Yes

ECG trigger facility No

User defined system and application presets for multi-user department YES

"Dedicated integrated dynamic stress echo package for flexible user defined protocols with stacked sub loops facility and contrast stress protocol usable for stress echocardiography" No

Provision of Tissue movement colorization with quantification possibility for IHD/CAD/Heart Failure patients YES

Number of transducer/probe ports 3

## Scan Modes And Performance Parameters

Cardiac 3-D freehand Option	No
Cardiac 3D/4D automatic Option	No
B-mode	YES
M MODE	YES
Contrast Harmonic/Agent Imaging with angio mode	No
Tissue harmonic imaging mode	YES
Provision of Harmonic imaging in TTE, TEE and Linear Probes	No
Color Doppler imaging (CDI)	YES
Color Doppler 3-D/4-D option	No
Power Doppler imaging (PDI)	YES
Power Dopple 3-D/4-D option	No
Continuous wave	YES

Pulsed wave	YES
Duplex mode	YES
Triplex mode	YES
Tissue Doppler imaging	YES
Contrast-enhanced ultrasound (CEUS) option	No
Tissue synchronization, tissue velocity	No
Cardiac Shear wave elastography	No
Cardiac compression elastography	No
Gain control in two dimensions for additional level of flexibility for image quality control	YES
"Provision for higher resolution "	Real time high frequency 2D
Probes supplied shall be in latest generation bandwidth	YES
Provision for higher sensitivity for low frequency doppler in all probes	Yes

Latest generation Electronic  
Phased/sector array Colour Doppler  
system

Yes

Number of Channels in color doppler  
system

50000 or more (If channels are being designated  
as digital channels)

System should be capable of generating  
real time live 3- D images

NO

Provision of Echocardiographic strain  
and strain-rate imaging with 2 D imaging

No

Provision of Echocardiographic strain  
and strain-rate imaging with 3 D imaging

No

### Image Display And Processing

DICOM THREE POINT ZERO COMPLIANT

Yes

Adjustable transmit focus

YES

Automated B-mode (2-D) image

Yes

Automated CDI image optimization

No

Automated PW Doppler image  
optimization

No

Dynamic receive focus

YES

Grayscale levels	256
Image magnification (zoom)	YES
Real-time image	YES
Frozen image	YES
TOUCH SCREEN	YES
HIGH RESOLUTION MONITOR	YES
"Provision of Tilt and Swivel monitor should be able to view in all angles and all light conditions"	YES
Monitor display size, cm (in)	12 Inch(±1)
Split screen	TWIN VIEW
Single/dual monitors	SINGLE
Depth, cm	≥30 (11.8)
PREPROCESSING	YES
POST PROCESSING	YES

SELECTABLE DYNAMIC RANGE	YES
SPECTRUM ANALYZER	YES
DIGITAL IMAGE STORAGE	YES
CINE LOOP PLAYBACK	YES
Max number frames	300
HARD DRIVE STORAGE CAPACITY , GB	>=500 GB
Speckle-tracking strain and strain rate	No
Stress echo	No
EXAM PROTOCOL	YES
Analysis and calculation packages	NO
Automated	YES
Digital calipers	YES
EXAM PRESETS	YES

Customizable presets	YES
On-screen annotation	YES
DVD/CD Writer	No
Flash Memory	YES
USB connector	YES
Type of printer provided with the echo cardio machine	THERMAL PRINTER
"Facility for high definition digital acquisition, review and editing of complete patient studies"	YES
Connectivity to PC and Echo cardiography machine	THROUGH IMS SOFTWARE
Provision of PC with echo cardio gram machine	No
Type of processor	NA
RAM capacity of PC in GB (hint: In caase PC not provided put zero)	NA
Processor speed in GHZ	NA

Frame Grabber incorporated	No
Conectivity between Echo cardiogram and PC	NA
PC with all software inclusive interfaced with echocardiograph machine	NA
laser Color printer provided with computer for rerporting	No
Inkjet printer provided with computer for reporting	No
CD/DVD Produced should be playable on any system	No cd/dvd Writer provided
Glossy Colour Print Paper supplied	Not provided
ECG Cable	NA
Echo cardiography sytem to be DICOM Ready	Yes
Dicom Interfacability to HIS	No
Dicom Interfacability Dicom to PACS	No
Interfacability Dicom to RIS	No



Echo Cardiography sytem supplied should be upgradable to next generation system on site YES

### Power Requirments

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

Resettable over current breaker shall be fitted for protection No

Power bakup INBUILT BATTERY

Back up time in minutes 60

Suitable Servo Controlled Stabilizer / CVT should be provided YES

### Miscellaneous Parameters

Warranty (Option of comprehensive warranty is available through bidding only, which if opted will supersede normal warranty in the catalogue) 3

Number of installations of the echo cardiogram machines in Central /State/PSU Govt Hospitals( Note: Seller should supply a performace certificate of the device to the buyer if demanded after placement of order) MORE THAN 3

User/Technical/Maintenance manuals to be supplied in English in hard and soft YES

copy

Demonstration of equipment and training to be provided after completing supplies & Installation before acceptance YES

The Principal Manufacturer must have direct Presence/approved service center In India YES

Copies of reports and certifications to be furnished to buyer on demand at time of supplies YES

Attach certificate from the principal that spare parts will be available for next 10 years YES

QA, QC Or other Calibration tests(6 months/ 1 year as per NABH/JCI) YES

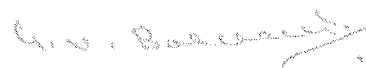
Additional Specification Parameters –

Probe configuration per unit:

1. Paediatric Echo Probe
2. Linear Transducer

\*NOTE: 1. FOR Medical Colleges under DME

2. Products should be supplied with 3 years of warranty



Additional Specification Parameters –

Specification Name	Allowed Values
Chest Electrodes Adult (set of Six)	100 Set should be provided with the machine
Chest Electrodes Paediatric / Neonate (set of Six)	100 Set should be provided with the machine

- \*NOTE: 1. For Medical Colleges under DME  
2. Products should be supplied with 3 years of warranty

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

*[Handwritten signature]*

**Reports**

Manufacturer shall be ISO certified	ISO 13485
ISO certification details such as date and number	ISO 13485 AB13IN142817
Availability of test report from govt/ NABL/ILAC accredited lab covering all parameters	Yes
Test report number , In case test reports not available , put NA	NA
Test report date, In case test reports not available , put NA	NA
Name of test lab , In case test reports not available , put NA	NA
Address of test lab , In case test reports not available , put NA	NA
Copies of all test reports to be provided to buyer on demand at time of supplies ,	Yes

*Mr. Basu*

*R. S. Chatterjee*

*[Signature]*

### ***Power Supply***

Power input	220-240 V AC, 50 Hz fitted with Indian plug
Length of power cable in meter	3
Resettable over current breaker shall be fitted for protection	Yes

### ***Accessories***

ECG Machine 12 leads with interpretation	1
Patient Cable	2
Chest Electrodes Adult (set of Six)	1
Chest Electrodes Paediatric (set of Six)	Not provided
Limb Electrodes	2 for adults and 2 for paediatric
Thermal paper for 500 patients	1 SET
Power cable for charging	Yes
Supplied with Clip electrode	Yes

User and service manual of ECG Machine Yes

***Environmental Parameters***

Operating temperature and humidity temperature of 10-40 degree C and relative humidity of 15-90%

***Trolley***

Provision of trolley No

Material of Frame of trolley No Trolley Provided

Material of Top of trolley No Trolley Provided

Number of castors No Trolley Provided

Number of brakes for castors No Trolley Provided

Height of trolley in inch No Trolley Provided

Provision of railing for top shelf No Trolley Provided

Availability of suitable cable arm having holder for ECG cables when not in use No Trolley Provided

Battery capacity	50 ECG or 1 hour of continuous rhythm recording on single charge
Connectivity to ECG Machine	LAN
Storage on external portable memories	USB support
The individual patient lead should be change without replacing the whole patient cable assembly	Yes
Noise level in dba	45
Weight of ECG Machine in Kg	5
Frequency in Hz	300
Availability of latest interpretation software	Yes
Wireless acquisition module with RF technology	No
System should have the dedicated software to download the ECG form machine in PDF format	Yes
Warranty (Option of comprehensive warranty is available through bidding only, which if opted will supersede normal warranty in the catalogue)	3

ECG machine should have full screen preview of ECG report for quality assessment checks prior to print	Yes
Type of inbuilt screen	TFT
Size of screen in inches	7
Display resolution of ECG machine in pixels	640 x 480
ECG machine should have interpretation facility of the amplitudes, duration and morphologies of ECG waveforms and associated rhythm for adult and pediatric patient	Yes
ECG machine should have alphanumeric keyboard for patient data entry	Hard keys
Size of printing paper	A4
Resolution of digital array printer using thermal sensitive paper in ECG Machine in dpi	200 dpi x 500 dpi on 25 mm/sec speed
ECG machine report format	Report formats of 3x4; 6x2, Rhythm for up to selected leads, 12 lead extended measurement, 1 minute of continuous waveform data for 1 selected lead
Provision of battery	Yes



ECG machine should acquire lead ECG for both adult and paediatric patients	Yes
The ECG machine should have facility to show lead fail indication	Yes
The ECG machine should have facility to show lead reversal indication	Yes
The ECG machine should have facility to show the impedance to quality check of connection	Yes
Acquisition time for ECG Machine in sec	10 sec
Digital sampling rate for Pacemaker spike detection	40000 s/sec/channel
Recording of digital sampling for pacemaker	1000 s/sec/channel
ECG machine should have real time colour backlit display of ECG waveforms with signal qualify indication for each lead	Yes
ECG machine should have frequency filters	Artifact, AC and low and high pass frequency filters
Number of ECGs which can be store in ECG Machine	151-200

## Specification of 12 Channels ECG Machine

### *Certificates*

Confirmity to standards	European CE
Certification number and date	ISO 13485 AB13IN142817
Confirmity to safety of electromagnetic compatibility	IEC-60601-1-2:2001 (or equivalent BIS)
Confirmity to safety standard	IS - 13450 / IEC60601-1-2005

### *Performance Parameters*

Purpose	ECG machine is primary equipment to record ECG signal with interpretation which is required for recording and analyzing the waveforms with software.
Operating modes of ECG Machine	Automatic, Manual and Rhythm
ECG machine should have ECG lead annotation facility	Yes
Leads which is in ECG machine should be able to acquire simultaneously and interpret them	12
Number of channels	12

### Specification of Portable X-ray Machine

Specification	Specification Name	Bid Requirement (allowed values)
Performance Parameter	Type of Frequency Generator	High Frequency
	Frequency generator output in KW	3.5
	Voltage Output range in KV	40 to 100
	Tube Current in mA	70, 100
	Maximum Exposure time in milli sec	Upto 40
	mAs Range	0.5 to 250
	Nominal focal spot size in mm	1 to 2
	Type of Collimator	Manual
	Focal spot size in mm	1-2
	Automatic exposure control device provided	No
	Provision of Anatomical Programming Radiography (APR)	Yes
	X-Ray Tube System	Stationary Anode
	X-ray film cassette holder available	Yes
	X-ray film cassette holder size in mm x mm	35x43
	Number of installations of the Portable X- ray machines in Central /State/PSU Govt Hospitals( Hint: Seller should furnish a performance certificate of the device to the buyer if demanded after placement of the order)	>3, <3
	Availability of toll free facility for technical support maintained by OEM or authorized agencies	Yes
	Warranty (Option of comprehensive warranty is available through bidding only, which if opted will supersede normal warranty in the catalogue)	3

#### Additional Specification Parameters – Portable X Ray Machine

Specification Name	Allowed Values
Display	12cm or more Color LCD display for KV, mAs, APR and error messages. Graphical user interface for easy operations.
Height of Machine	Height of the Machine in the parking Position should be 135cm or less.
Weight of Machine	Weight of the Machine should be less than 150Kg.
APR Program	APR Program with graphical user interface selection of 125 or more APR program on LCD display through graphical user interface.
Frequency of Generator	Generator frequency should be 250KHz or more.
Certification	Equipment should be type approved from AERB, BIS or CE certified.

- \*NOTE: 1. FOR Medical Colleges under DME Karnataka  
2. Products should be supplied with 3 years of warranty

*[Handwritten Signature]*

*[Handwritten Signature]*