Minutes of the Pre Bid Meeting for Medical Equipment, Tender no. BMSICL/2018-19/ME-088, held on 06th July 2018 at conference hall of BMSICL

1. Attendence:- As per attendance register

2. The suggestions received during meeting from different prospective bidders for amendment of technical specification and General Condition Clauses of Medical Equipment were discussed and deliberated on by the experts and accordingly after deliberation the following amendments were recommended.

Name of Equipment - Emergency & ICU Equipments

Sl no.	Technical Specification before amendments	Technical Specification After amendments
	1. Multi Parameter Monitor with IBP	
	1. Should have facility for adult, paediatric and neonatal patient monitoring.	No Change
	2. Should have touch screen TFT display with at least to 15" & Modular based system.	Should have touch screen /TFT display with at least to 12" & Modular based system.
	3. The waveforms should be user selectable.	No Change
	4. Should have 3/5 lead ECG, SPO2, NIBP, Respiration rate , Temperature & 2 IBP.	No Change
	5. Should be provided Battery backup for minimum two hours.	No Change
	6. Should have automatic graphic and tabular trending of all monitored parameters as standards.	No Change
	7. Should have event recall with waveforms, graphical and tabular trends, alarm logs.	No Change
	8. SpO2 sensor with Plethysmograph & Pulse strength indicator With Variable pitch with change in SpO2.	No Change
	9. NIBP should have display Systolic, diastolic, mean pressure in large, easy to read display.	No Change
	10. NIBP should have manual/ stat mode or automatic mode with adjustable time intervals from 2- 30 minutes and adjustable alarm limits.	No Change
	11. Should have Arrhythmia detection.	No Change
	12. Pacemaker detection function	No Change
	13. Should have up gradation facility ETCO2 & CO.	Removed
	14. US FDA / European CE approved model should be offered.	No Change
	15. Scope of supply must include: ? Reusable 3-5 LEAD ECG Cable- 02 no. ? Reusable SpO2 sensor for adult and paediatric- 02 no. Each ? Reusable Rectal/ Esophageal temperature probe_ 02 no. ? NIBP House - 02 no. ? NIBP cuff – Adult -02 no. paediatric -02 no. & Neonatal -02 no. ? IABP kit 10 nos. each. .	No Change
	16. Power Supply 220VAC +/- 10 %, 50Hz fitted with Indian plug.	No Change
	17. ETCO2 & CO module should be compatible to all monitors.	No Change
	18. Wall mount monitor stand should be supply with each Monitor.	No Change
		No Change
	Note	No Change
	A. PLEASE QUOTE SEPARATE PRICES FOR ACCESSORIES/KIT/CABLE WHICH SHOULD BE FREEZED FOR NEXT 3 YEARS.	No Change
	B. **COST OF MULTI PARA MONITOR (ECG, SPO2, NIBP, RESPIRATION ,TEMPERATURE & 2 IABP), ETCO2 & CO MODULES SHOULD BE QUOTED SEARETELY.**	No Change
		No Change
		No Change
		No Change
		No Change
	2 Central Monitoring Station With multi-para monitor	No Change
	A. Multi para monitor	No Change
	1. Should have facility for adult, pediatric and neonatal patient monitoring.	No Change
	2. Should have touch screen TFT display with at least to 15" & Modular based system.	Should have touch screen /TFT display with at least to 12" & Modular based system.
	3. The waveforms should be user selectable.	No Change
	4. Should have 3/5 lead ECG, SPO2, NIBP, Respiration rate , Temperature & 2 IBP.	No Change
	5. Should be provided Battery backup for minimum two hours.	No Change
	6. Should have automatic graphic and tabular trending of all monitored parameters as standards.	No Change
	7. Should have event recall with waveforms, graphical and tabular trends, alarm logs.	No Change
	8. SpO2 sensor with Plethysmograph & Pulse strength indicator With Variable pitch with change in SpO2.	No Change
	9. NIBP should have display Systolic, diastolic, mean pressure in large, easy to read display.	No Change
	10. NIBP should have manual/ stat mode or automatic mode with adjustable time intervals from 2- 30 minutes and adjustable alarm limits.	No Change
	11. Should have Arrhythmia detection.	No Change
	12. Pacemaker detection function	No Change
	13. Should have up gradation facility ETCO2 & CO.	Removed

	14. US FDA / European CE approved model should be offered.	No Change
	15. Scope of supply must include: · Reusable 3-5 LEAD ECG Cable- 02 no. · Reusable SpO2 sensor for adult and paediatric- 02 no. Each · Reusable Rectal/ Esophageal temperature probe_ 02 no. · NIBP House - 02 no. · NIBP cuff – Adult -02 no. paediatric -02 no. & Neonatal -02 no. · IABP kit 10 nos. each. .	No Change
	16. Power Supply 220VAC +/- 10 %, 50Hz fitted with Indian plug.	No Change
	17. ETCO2 & CO module should be compatible to all monitors.	Supplied ETCO2 & CO module should be compatible to all monitors & required operational consumables 10 nos for each
	18. Wall mount monitor stand should be supply with each Monitor	No Change
		No Change
		No Change
	B. Central Monitor	No Change
		No Change
	1. System should have minimum 16 beds skill. Up gradable up to 32 beds.	No Change
		No Change
	2. in future Central station should have separate patient window for viewing detailed real-time or stored data for individual patient CNS should have 72 hrs. stored patient data monitoring – trends CNS should have 72 hr event review facility .	No Change
		No Change
	3. CMS should have multi lead arrhythmia and ST review facility.	No Change
		No Change
	4. Central station should have 19" to 21" flat screen LED display ,Colour printer ,Wireless keyboard & mouse , Suitable capacity online UPS with 30 minutes back up ,Networking ,Switch, Rack for Switch .	No Change
		No Change
	5. Should have drug dose and hemodynamic calculations.	No Change
		No Change
	6. It should have to view information such as vital signs, alarm status, arrhythmia analysis, trended parameters, patient data etc for any selected bed from the central station.	No Change
		No Change
	7. Entire networking and cabling, & hardware should be Wall mounted.	No Change
	8. US FDA/ European CE approved model should be offered.	Need to remove,it's part of monitor certification.
		No Change
	9. Power Supply 220VAC +/- 10 %, 50Hz fitted with Indian plug.	No Change
		No Change
	Note	No Change
	A. PLEASE QUOTE SEPARATE PRICES FOR ACCESSORIES/KIT/CABLE WHICH SHOULD BE FREEZED FOR NEXT 3 YEARS.	No Change
	B. UNIT COST OF MULTI PARA MONITOR (ECG, SPO2, NIBP, RESPIRATION ,TEMPERATURE & 2 IABP), ETCO2 , CO MODULES & CENTRAL MONITOR SHOULD BE QUOTED SEPARETELY.	Final cost sheet to be added on PROC.
	C. CENTRAL MONITOR UPGRADATION COST BE QUOTED SHOULD BE SEPARETELY.	No Change
	D. NUMBER OF MONITOR SHOULD BE VARRY AS PER REQUIRMENT.	No Change
		No Change
		No Change
		No Change
		No Change
		No Change
	3.Syringe Pump	No Change
	1. Microprocessor controlled pump capable of propulsion of fluids accurately.	No Change
	2. Syringe compatibility: The pump should work with different brands of syringes and is able to accept syringes with volumes of 10 ml – 50 ml.	No Change
	3. There should be automatic detection of syringe size.	No Change
	4. It should be equipped for detecting correct fixing of syringe.	No Change
	5. Flow rate should be adjustable from 0.1 ml/hr to 1000 ml/hr.	No Change
	6. Flow rate should be adjustable in increments of 0.1 ml/hr.	No Change
	7. The accuracy of flow rate should be ± 1%.	7. The accuracy of flow rate should be ± 2%.
	8. The flow rate should be displayed in ml/ hr. Delivery rate can be calculated in mg/ hr, µg/ hr, mg/ kg/ hr etc.	The flow rate should be displayed in ml/ hr.
	9. It should be able to deliver bolus dose in automatic/ manual mode.	No Change
	10. Internal Rechargeable battery backup should 4 to 6 hrs.	No Change
	11. Pump should have colour display.	Pump should have colour/Monochome display.
	12. The following audio and visual alarms should be incorporated: a) Main changeover to battery indication b) Occlusion pressure alarm c) Near empty syringe d) Low battery e) Standby alarm.	No Change
	13. The pump should be waterproof so that fluid should not enter inside the pump in case of accidental spillage.	No Change
	14. The syringe pumps should be capable of standalone functioning as well as being fixed on a frame/platform/stand.	No Change
	15. US FDA and/ European CE approved model should be offered.	15. US FDA / European CE approved model should be offered.
	16. Power Supply 220VAC +/- 10 %, 50Hz fitted with Indian plug.	No Change
	17. UPS of suitable rating with voltage regulation, spike protection and maintenance free batteries for 60 minutes back up.	Removed
		No Change
		No Change
	4. Infusion Pump	No Change
	1. Digital self–regulating volume controlled portable pump.	No Change
	2. Unit should have drop sensor or equivalent mechanism for feedback and detection.	No Change

	3. It can be mounted on standard bed/ wall rail or mobile pole/stand (supplied with fixation).	No Change
	4. It should be capable of infusing through intravenous route.	No Change
	5. It should have an open system, suitable for different brands of IV sets available in local Indian market. Also if any IV set is required to be calibrated then user should easily calibrate.	No Change
	6. It should be programmable; Infusion volume and time/ flow rate can be entered.	No Change
	7. The flow rate should be adjustable: 0.1-1100 ml/h, steps of 0.1 ml/h.	No Change
	8. The accuracy ±1% of the total volume delivered.	8. The accuracy ±5% of the total volume delivered.
	9. It should have facility for occlusion detection and alarm.	No Change
	10. The system should have LED / LCD display.	No Change
	11. It should have an audio-visual alarm with a silencing feature for audio alarms.	No Change
	12. Should have internal rechargeable battery. The battery backup should be of minimum 4- 6 hrs .	No Change
	13. US FDA and/ European CE approved model should be offered.	13. US FDA / European CE approved model should be offered.
	14. Power Supply 220VAC +/- 10 %, 50Hz fitted with Indian plug.	No Change
	15. UPS of suitable rating with voltage regulation, spike protection and maintenance free batteries for 60 minutes back up	Removed
		No Change
	5. BiPAP	No Change
		No Change
	1. It should be non-invasive (NIV) bi-level therapy.	No Change
	2. Mode of operation CPAP, S, ST, PC, T	No Change
	3. Pressure 4-25 cmH2O	Pressure 4-30 cmH2O
	4. Ramp Time 0-40 Minutes	No Change
	5. Should have provision for oxygen supply	No Change
	6. Should have Heated Humidifier.	No Change
	7. Sound Level=Less than 40dB	No Change
	8. Should have Memory Card.	No Change
	9. Breath rate (BPM) 0-30.	No Change
	10. Display should be LCD.	Display should be LCD/LED/TFT
	11. Should have provision for oxygen supply	No Change
	12. Should be supply with Reusable Silicon Mask (Small. Large & Medium size) each size 3 nos. Tubing & Heated humidifier)	No Change
	13. US FDA and/ European CE approved model should be offered.	13. US FDA / European CE approved model should be offered.
	14. Power Supply 220VAC +/- 10 %, 50Hz fitted with Indian plug.	No Change
		No Change
	6. CPAP	**6.Bubble CPAP**
	Technical Characteristics:	No Change
	1) Device should able to deliver CPAP of 1 to 10 cmH2O increments of 1 cm, using an underwater bubble system.	No Change
	2) The device should have a in-built air oxygen blender to deliver FiO2 21% to 100% (+/- 2%) with an adjustable flow in the range of 0-15 L/min (+/- 0.5 L/min);	2) The device should have in-built air oxygen blender as well as Air Compressor to deliver FiO2 21% to 100% (+/- 2%) with an adjustable flow in the range of 0-15 L/min (+/- 0.5 L/min);
	3) Should have a heated wire servo controlled humidifier with display temp near patient end of the circuit; to be supplied with 2 reusable infant water chamber.	3) Should have a heated wire servo controlled humidifier with display temp near patient end of the circuit; to be supplied with 2 reusable & 2 disposable infant water chamber.
	4) Should be supplied with 2 reusable heated wire silicone tubing circuit for infant/Newborn;	4) Should be supplied with 2 reusable & 2 disposable heated wire silicone tubing circuit for infant/Newborn;
	5) Should be able to deliver CPAP using available patient interfaces nasal prongs/ nasopharyngeal prongs;	No Change
	6) For devices based on underwater bubble systems the water chamber should be reusable; to be supplied with 2 reusable water chamber;	No Change
	7) Should be provided pressure release valve at 15cm H2O to 17 cm H2O;	No Change
	User's interface:	No Change
	For a flow driving system a pressure display is required.	No Change
	Audio visual alarm for low pressure, high pressure, power failure, low O2.	No Change
		No Change
	Physical Characteristics	No Change
	Weight (lbs, Kg) :< 8 Kgs	Weight (lbs, Kg) :< 20 Kgs
	Noise (in dBA) : <60 dB; Alarm >65dB	No Change
	Heat dissipation : Yes	
	Mobility, portability : Portable	Mobility, portability : Portable ,Online UPS may be static/fixed
		No Change
	Energy Source (electricity, UPS, Solar, gas, water, CO2 …)	No Change
	Power requirement : 220VAC, 50 Hz	No Change
	Battery Operated : with at-least 6 hours battery backup	Battery Operated : with at-least 1 hour battery backup
	Tolerance (to variations, shutdowns) : ± 10% of input	No Change
	Protection : OVP, earth leakage protection	No Change
	Power consumption :< 140 Watt	No Change
	Other energy supplies: electric/battery driven.	No Change
		No Change
	Accessories, Spare Parts, Consumables	No Change
	Each device should be provided with 30nasal prongs (At least three sizes suitable for neonates weighing < 1000grms, 1000-1500grms &> 1500 grams).	No Change
	Air and O2 hose of 3m length each along with the appropriate socket;	No Change
		No Change
	Environmental and Departmental Considerations	No Change
	Operating condition: Capable of operating continuously in ambient temperature of 10 to 40 deg C and relative humidity of 15 to 90% in ideal circumstances.	No Change
	7. Environmental Decontamination System	
	1. Should be designed to kill Bacteria, viruses and fungus in the indoor air.	No Change
	2. Should eliminate other environmental pollutants like particulate matter and VOC.	No Change
	3. Should have different modules for air filtration, air decontamination, fumigation.	No Change
	4. Should be suitable for areas of > 30 square meter - Air Filtration Module .	No Change
	5. Should have multi-stage mechanical particle arrestors for removing particles with a very high efficiency.	No Change
	6. Should have anemometer photo calytic filter for continuously decomposing VOCs.	No Change
	7. Should have dual stage ACF for VOC management.	No Change

	8. It should have maintenance of air purification by 2 Curved UV Lamps using Ultra Violet Germicidal Irradiation technique for maximum efficacy	No Change
	9. The air flow should be adjustable between 430 cfm to 200 cfm.	No Change
	10. Should be a floor mounted mobile system	No Change
	11. Should be made of non-conducting shock proof material - Air Decontamination Module	No Change
	12. Should use flash thermal energy for decontamination of air	No Change
	13. Should not use any toxic chemical like ozone or disinfectants for air disinfection and decontamination	No Change
	14. Should be fan free & chemical free - Controller system	No Change
	15. The modules should be turned on/ off remotely using one controller	No Change
	16. The controller should be wall mounted and should work even from outside the room.	No Change
	17. Power Supply 200VAC +/- 10 %, 50Hz fitted with Indian plug.	No Change
	18. UPS of suitable rating with voltage regulation, spike protection and maintenance free batteries for 30 minutes back up.	No Change
	19. US FDA / European CE /BIS Approved model should be offered.	No Change
	8. Autoclave	
	Autoclave HP Horizontal (Cylindrical)	No Change
	1. High Grade strong stainless steel, Triple walled construction.	No Change
	2. Positive radial self-locking safety doors.	No Change
	3. Hydrostatically tested to withstand 2.5 times the working pressure.	No Change
	4. Sealed with Silicon long-lasting and durable gasket.	No Change
	5. Digital display for Jacket and Chamber pressure and temperature.	No Change
	6. Outer jacket insulated to prevent heat loss; with a high-grade insulation material.	No Change
	7. Mounted on 304 stainless steel frame.	No Change
	8. Temperature and pressure cut-off device.	No Change
	9. Auto cut-off at low water level.	No Change
	10. Rust-proof 304 grade stainless steel.	No Change
	11. Cylindrical construction.	No Change
	12. Equipment should have separate steam release valve and drainage system.	No Change
	13. Minimum of two safety valves with auto-release at 16 and 20.	No Change
	14. Capacity: 200 to 300 lts .	No Change
	15. Accessories:	No Change
	a. Automatic Pressure Control Switch -2 no.	No Change
	b. Automatic Water Cut-off Device -2 no.	No Change
	c. Perforate basket(rust-free stainless steel) –2 No	No Change
	d. Biological and chemical indicators-1 set	No Change
	16. Power Requirements :Input voltage-440V AC, 50Hz ,3-phase	No Change
	17. USFDA/CE/BIS approved model should be offer.	No Change
	8. Fowler bed	
	1. Should have four sections. Top flat platform should be made of perforated CRC sheet	No Change
	of thickness of 16G or better.	No Change
	2. Bed frame must be sturdy and stable to support weight of at least 170kg. The frame structure should be made up of at least 16 G CRC, rectangular / circular pipe of 100 mm x 30 mm.	No Change
	3. Bed frame mounted on trolley base made up of 100mmx30mm CRC rectangular pipe of 16 gauge.	No Change
	4. All adjustments for fowler position must be obtained from crank shaft, manually operated with stainless steel/ABS foldable handle on both the shaft.	No Change
	5. The finished bed must be rust proof, pretreated and polished Stainless Steel.	No Change
	6. The bed should have telescopic side rails of stainless steel of 22 Gauze with spring loaded locking arrangement on both sides .	No Change
	7. Should have easily removable head and foot panels made up of ABS plastic.	No Change
	8. Fowler bed should be of following dimension: Mattress area of Length 2000 to 2010 mm X Width 900 to 1000mm Height: -500 to 550mm (without mattress).	No Change
	9. Should have strong & good quality single wheeled total locking type Swivel Castors of 125 to 150 mm diameter with breaks on all four castors for stabilized position.	No Change
	10. There should be suitable buffer mechanism to avoid hitting of the bed to the wall from all sides.	No Change
	11. Should have provision of fixing suitable rod for hanging intravenous / irrigation fluid bottle on both sides at head end and foot end. Each bed should be supplied with 2 no. good quality I. V. rod.	No Change
	12. Should have hooks on bed frame on both side for holding urine / drainage bag (at least 2 Nos. on each side).	No Change
	13. USFDA/European CE Approved model should be Offered.	13. USFDA/European CE/CE Approved model should be Offered.
	MATTRESS	
	Mattress to be four sectional and to be combination of good quality foam and coir layer.	No Change
	DIMENSIONS	No Change
	: Exactly fitting to the Bed, 4-inch thickness	No Change
	10. VENTILATOR (NEONATAL)	
	Technical Specification:	
	1. Advanced technology ventilator for use in NICU, suitable for ventilating Premature Neonates patients.	No Change
	2. Should have facility for Invasive and Non-Invasive ventilation	No Change
	3. Microprocessor controlled system with individual selection of various ventilation parameters & PEEP.	No Change
	4. Display screen of minimum 8-10" Color-TFT.	No Change
		No Change
	5. Machine should be Compressed air (medical oil free air compressor of the same brand as ventilator)or Turbine Base.	No Change
		No Change
	6. Should have battery backup at least 30min.	No Change

		No Change
	7. It should allow the user to deliver conventional ventilation as well as HFOV.	No Change
	8. Should have the following modes of ventilation:	No Change
	a. Assist/ Control	No Change
	b. Volume control	No Change
	c. Pressure control	No Change
	d. Pressure support	No Change
	e. SIMV with pressure support (Pressure and volume control)	No Change
	f. PEEP	No Change
	g. Inverse ratio Ventilation	No Change
	h. Noninvasive ventilation-BIPAP, CPAP	No Change
	i. Apnea ventilation, user selectable, volume & pressure control	No Change
	j. HFOV	No Change
	9. Should have facility to measure and display of the following parameters:	No Change
	a. Airway Pressure (Peak & Mean)	No Change
	b. Tidal volume (Inspired & Expired)	No Change
	c. Minute volume (Inspired & Expired)	No Change
	d. Respiratory mechanics	No Change
	e. Spontaneous Minute Volume	No Change
	f. Total Frequency	No Change
	g. FiO2	No Change
	h. PEEP	No Change
	i. Plateau Pressure	No Change
	j. Use selector Alarms for all measured & monitored parameters	No Change
	k. Occlusion Pressure	No Change
	l. Pressure Flow & Volume curves	No Change
	10. Automatic compliance and leakage compensation for circuit and ET tube.	No Change
	11. Conventional ventilation& HFO Ventilation Mode Parameters:	No Change
	a. BPM: 1to150	BPM: 2 to150 or above
	b. Inspiratory Time: 0.1 to 3.0 sec	b. Inspiratory Time: 0.1 to 2.0 sec or higher
	c. CPAP Pressure: 0 to 35 mbar	CPAP Pressure: 0 to 25 mbar
	d. Inspiratory Pressure: 0 to 65 mbar	Inspiratory Pressure: 10 to 65 mbar or above
	e. FIO2: 21% to 100%	
	f. Tidal Volume 2-300 ml with Volume Guarantee	Tidal Volume 2-200 ml with Volume Guarantee
	g. HFO Mode Parameters:	
	h. HFO Frequency should be wide range with 3 to 20 Hz	HFO Frequency should be wide range with 5 to 20 Hz
	i. I: E Ratio: 1:1, 1:2, 1:3	No Change
	12. Alarm	
	a. Adjustable Alarm. - Low/high minute volume, low/high pressure, low/high tidal volume, low/high rate, apnea time, low/high oxygen, low/high SpO2	No Change
	b. Special alarm - O2 cell Failure, flow sensor, battery, power supply, gas supply, oxygen concentration,	No Change
	13. Should have inbuild Nebulization assembly facility.	**13.** Should have Nebulization assembly facility.
	14. Ventilator, Compressor & Humidifier should be Same Trolley/cart mounting for easy transportation.	No Change
	15. Humidifier	
	a. Servo controlled heated Respiratory Humidifier.	No Change
	b. Display Should be of LED /LCD.	No Change
	c. Temperature control settings & Temperature range: 28-40 deg.	No Change
	d. Temperature should be adjustable.	No Change
	e. Jar should be autoclavable	No Change
	16. Standard Accessories/spare & Consumable.	
	a. Silicon breathing circuit circuit (Neonatal reusable) - 5 complete set.	No Change
		No Change
	b. Nebulization assembly compatible circuit 5 complete set.	No Change
	c. Humidifier - 1 No.	No Change
	d. Hose for O2 connection with connector - 5 mts.	No Change
	e. Hose for compressed air with connector - 5 mts.	No Change
	f. Test lung - 1 No.	No Change
		No Change
	g. HME filter – 10 no	No Change
		No Change
	h. Inbuilt / integrated nebulizer-1 N0	No Change
	i. All sensors and other non-consumable items (other than reusable silicon ventilator circuits) should be free of cost during warranty and CMC.	No Change
		No Change
	17. Ventilator, Humidifier & Compressor Power Supply input to be 200-240VAC, 50 Hz fitted with Indian conditions plug .	No Change
	18. Suitable online UPS with commensurate capacity for all ventilators including compressor & Humidifier with maintenance free batteries for minimum Two hours back-up should be supplied.	Suitable online UPS with commensurate capacity for ventilator including compressor & Humidifier with maintenance free batteries for minimum 30 min back-up should be supplied.
	19. Ventilator, Humidifier & Compressor Should be US FDA and / European CE. approved Model should be offered.	No Change
	NOTE:	
	1) Reusable consumables (other than reusable silicon ventilator circuits) should last during the warranty period.	No Change
	2) Ventilator & Humidifier any additional reusable consumables are required during the warranty period those will be supplied free of charge by the supplier.	No Change
	3) The life expectancy of the reusable consumable is expected to be of at least one year from the date of installation of the same. The reusable consumables will be procured at the prices accepted as per the contract.	No Change
		No Change
	4. The bidders should submit All reusable consumable items price & their authorized local office/ distributor name in the financial bid.	No Change
	11. <u>Transport ventilator</u>	

	1. Ventilation modes	No Change
	a. Volume Controlled mode.	No Change
	b. Pressure Controlled mode	No Change
	c. Asst. Controlled mode.	No Change
	d. SIMV(VC/PC)	No Change
	e. Pressure Support	No Change
	f. CPAP and PEEP	No Change
	g. Shall have NIV in all modes	No Change
	2. CPAP and PEE	
	2 Tidal volume - 100 – 2000 ML	No Change
	3 Respiratory rate - 0 – 60 BPM.	Respiratory rate - 5– 50 BPM.
	4 Inspiratory Pressure - 4 – 50 cm H2O.	Inspiratory Pressure - 5 – 50 cm H2O.
	5 Oxygen Concentration - 21 –100 %	No Change
	6 Audible alarms for low pressure, Apnea, high-pressure, High respiratory rate, Circuit disconnection	No Change
	3. Standard Accessories (with each machine):	
	a. Patient circuit (Adult) - 1 complete set, Reusable.	No Change
	b. O2 Pressure Regulator - 1 No.	No Change
	c. Hose for O2 connection - 5 mts	No Change
	d. Test lung - 1 No.	No Change
	e. Shall supply with all other accessories necessary to operate the ventilator.	No Change
	f. NIV Mask – 1 No (Adult, Reusable)	No Change
		No Change
	4. Power Source& Others	No Change
	8. 220/240 V Ac 50 Hz supply	No Change
	9. Internal battery (maintenance free) with 2.5 hours minimum operating	No Change
	10. Provision for mounting on trolley & bedrail with necessary clamps. Should have carry handle / provisions for transport easily.	No Change
	11. US FDA / European CE approved model should be offered.	No Change
	12. Patient Circuit –10 numbers (disposable) should be supplied along with the machine.	No Change
	13. Shall have weight <10kg.	No Change
		No Change
	12 Bed Side Locker	No Change
	1.Should be made up of MSsheet 18-gauge, square pipe 1"x 16 G	No Change
	2.Bed side locker Top shall be made of SS 304 grade having dimensions 400 mm L x 400 mm W x 800 mm H approximately.	No Change
	3.Should have Box of size 400x400x300mm.	No Change
	4.All MS parts shall be pre-treated, and powder coated finish.	No Change
	5. USFDA/European CE /BIS Approved model should be Offred.	13. USFDA/European CE/CE Approved model should be Offered.
		No Change
	13 **Food Trolley/ Over bed Table**	No Change
	1. Should have height adjustment facility from 850 mm to 1100 mm with the help of operating lever which activates the gas spring to assist the table top to lift.	No Change
	2.Gas spring should function smoothly with adjustable height and consistent motion during operation.	No Change
	3.Table top frame shall be designed to hold the top as well as extension works as a handle for the handling of over bed table.	No Change
	4.Should have anti scratch, good surface finish ABS Laminated top having dimension 760 mm L x 360 mm W approximately.	No Change
	5.Should be mounted on four 5 cm swivel castors.	No Change
	6. USFDA/European CE/BIS Approved model should be Offred.	13. USFDA/European CE/CE Approved model should be Offered.
	14 Defibrillator with monitoring Facility (ECG,SPO2 & NIBP)	**14 Defibrillator**
	2. Biphasic, Manual and AED with voice prompt, compact and light weight.	No Change
	3. Energy selection 5J to 200J in steps.	No Change
	4. Momentary energy selection access on front panel.	No Change
	5. Should have adult and pediatric paddles integrated on same handle.	No Change
	6. Monitor should display selected and delivered energy.	No Change
	7. Charging time maximum 5 secs for 200J.	No Change
	8. Should have battery backup for 50 discharges of 200J.	No Change
	9. Should have ECG inputs through paddles or 5 lead cables.	No Change
	10. Should have display for selected ECG input source, SPO2 & NIBP.	Should have display for selected ECG input source.
	11. Should have an inbuilt thermal recorder.	No Change
	12. Should supply 2 bottles of jelly, 12 rolls of thermal paper.	No Change
	13. Should supply three pairs of AED pads and the prices of AED Pads should be quoted separately in financial bid.	No Change
	14. Should work on 220VAC +/-10%, 50 Hz.	No Change
	15. US FDA and European CE Approved model should be offered.	15. US FDA /European CE Approved model should be offered.
	15 .Nebulizer	
	1. Compact, lightweight, low noise	No Change
	2. Durable long-life compressor. Suitable for heavy duty/ institutional (hospital) use, should be able to run uninterruptedly for one hour, Max Press= 2.0-2.5 bars	No Change
	3. Should have a dust protect filter.	No Change
	4. Piston-type electric aspirator that offers high performance and great durability.	No Change
	6. Protective thermal cut out relay	No Change
	7. Air delivery rate app.15 L/min.	7. Air delivery rate appox 15 L/min.
	8. US FDA/ European CE approved model should be offered.	No Change
	9. Power Supply 220VAC +/- 10 %, 50Hz fitted with Indian plug.	No Change
	10.Should be supplied with nebulization accessory kit with mask for adult and paediatric – 2 nos. each .	No Change