

## TECHNICAL SPECIFICATIONS

### ***Important Instructions for Technical Specifications***

1. The bidders shall NOT write the word “As per specifications”, “specifications compliance” or any other related terms.
2. The bidder shall prepare the bid specifications in an **annotated for ease of comparison & evaluation**. The specifications will also be supported with **brochures of quoted equipment**, reference **picture/design / website link of the product**. The relevant brochures having complete specification must be attached with the technical bid otherwise bids shall be declared as non-responsive

N	MONITOR		
1	Patient monitor	10	<p><b>Modular 5 parameter monitor with 12 inches screen, 2 hours backup (Mandatory)</b>                      5-lead ECG, RESP, SpO2, NIBP, HR, Temp(Single Channel)                      Display for easy Viewing 12” or better color TFT/LCD/ LED for easy set-up User selective 10 or better traces/ waveform display.                      23 or more Arrhythmias analysis should be detected and alarmed                      Multi-lead ECG algorithm                      S-T and QT Analysis                      Pacemaker detection.                      Support heart rate analysis and dynamic NIBP analysis                      Save up to 500 or more Event management and 48 hours or more waveforms IBP cable and sensor kit                      Up to 72 hours of graphic and tabular trend of all parameters,  <b>PERFORMANCE:</b>                      Heart rate: 30 ~ 300 bpm or better on either sides And Ped/Neo:15-350bpm or better  <b>Respiration</b>                      Respiration rate: 2~150bpm or better on either side.  <b>SPO2:</b>                      Range: 0 ~ 100% or better on either side  <b>Temperature:</b>                      Range; 0 -50C° (32 - 122F°)  <b>NIBP:</b>                      Range: Adult: SYS 25-290mmHg DIA 10-250mmHg Average: 15- 260mmHg                      Pediatric: SYS:25-240mmHg DIA:10-200mmHg Average:15- 215mmHg                      Neonatal: SYS:25-140mmHg DIA:10-115mmHg Average :15- 125mmHg  <b>Alarm</b>                      Alarm: All parameters on/off selective independently                      Power input 220Vac,50Hz                      With Battery Backup time: Minimum 05 hours or better  <b>ACCESSORIES:</b></p> <ul style="list-style-type: none"> <li>• ECG 5 Lead cable. 1</li> <li>• Disposable Electrodes Adult, Neonate &amp; Paeds. 20 each</li> <li>• SPO2 Finger sensor with fixed or detachable extension (each for adult, Paeds and neonate) 1</li> <li>• NIBP Reusable Neonate, Paeds &amp; Adult Cuff 1</li> <li>• NIBP Hose 1</li> <li>• AC power code 1</li> <li>• Operation Manual 1</li> <li>• Temperature sensor &amp; cable 1</li> </ul>
2	Cardiac monitor	6	<p><b>Modular (5ch ECG, SpO2, NIBP, Dual IBP, TEMP, Resp.,ETCO2)</b>  <b>7 parameter and 15 inches display patient monitor with ETCO2 and 2-CH IBP, 2 hours backup (Mandatory)</b>                      Display for easy Viewing 15” or better color TFT/LCD/ LED for easy set-up User selective 10 or better traces/ waveform display.                      ECG, SpO2, NIBP, IBP, 2-TEMP, and Respiration EtCO2 (Side stream type with basic</p>

			<p>accessories)  23 or more Arrhythmias analysis should be detected and alarmed  Multi-lead ECG algorithm  S-T and QT Analysis  Pacemaker detection.  Support heart rate analysis and dynamic NIBP analysis  Save up to 500 or more Event management and 48 hours or more waveforms IBP cable and sensor kit  Up to 72 hours of graphic and tabular trend of all parameters,  <b>PERFORMANCE:</b>  Heart rate: 30 ~ 300 bpm or better on either sides And Ped/Neo:15-350bpm or better  <b>Respiration</b>  Respiration rate: 2~150bpm or better on either side.  <b>SPO2:</b>  Range: 0 ~ 100% or better on either side  <b>Temperature:</b>  Range; 0 -50C° (32 - 122F°)  <b>NIBP:</b>  Range: Adult: SYS 25-290mmHg DIA 10-250mmHg Average: 15- 260mmHg  Pediatric: SYS:25-240mmHg DIA:10-200mmHg Average:15- 215mmHg  Neonatal: SYS:25-140mmHg DIA:10-115mmHg Average :15- 125mmHg  <b>Alarm</b>  Alarm: All parameters on/ off selective independently  Power input 220Vac,50Hz  With Battery Backup time: Minimum 05 hours or better  <b>ACCESSORIES:</b></p> <ul style="list-style-type: none"> <li>• ECG 5 Lead cable. 1</li> <li>• Disposable Electrodes Adult, Neonate &amp; Paeds. 20 each</li> <li>• SPO2 Finger sensor with fixed or detachable extension (each for adult, Paeds and neonate) 1</li> <li>• NIBP Reusable Neonate, Paeds &amp; Adult Cuff 1</li> <li>• NIBP Hose 1</li> <li>• AC power code 1</li> <li>• Operation Manual 1</li> <li>• ETCO2 (Side stream) with basic acc. 1</li> <li>• IBP Cable 1</li> <li>• Temperature sensor &amp; cable 1</li> </ul>
3	ECG machine	2	<p>03 channels ECG Machine  Should be portable and lightweight  ADC:24bits, resolution:1uV/LSB or better  Voltage 220 volts, 50hz  Display 7" or more <b>Mandatory</b>  Simultaneous 12 leads acquisition  Must have continuous display of patient heart and rate  Must have integrated pediatric analysis.  Support the 12-lead ECG analysis program for complete ECG Analysis reports with measurement data table should be provided.  Must be able to indicate at least four critical values that require immediate clinical attention. Automatically extend a rhythm record once Critical values are detected. The critical values include: Acute ATEML, Extreme Tachycardia/Bradycardia, Significant Arr and prolonged QTc interval  Special pediatric ECG analysis based on V4R.  Auto pace maker detection  Printer: High Resolution and in built thermal array printer.  Battery Capacity: Must be 5 hours without printing or 500 ECGs  Can save up to 700 ECGs in internal memory or more  Complete with Patient Cable.  Reusable Electrodes Set.</p>
5	Modular patient Monitor.	2	<p><b>(5ch ECG, SpO2, NIBP, Dual IBP, TEMP, Resp.,ETCO2)</b>  Display for easy Viewing 15" or better color TFT/LCD/ LED for easy set-up User selective 10 or better traces/ waveform display. <b>Mandatory</b>  ECG, SpO2, NIBP, IBP, 2-TEMP, and Respiration EtCO2 (Side stream type with basic accessories)  23 or more Arrhythmias analysis should be detected and alarmed</p>

		<p>Multi-lead ECG algorithm  S-T and QT Analysis  Pacemaker detection.  Support heart rate analysis and dynamic NIBP analysis  Save up to 500 or more Event management and 48 hours or more waveforms IBP cable and sensor kit  Up to 72 hours of graphic and tabular trend of all parameters,  <b>PERFORMANCE:</b>  Heart rate: 30 ~ 300 bpm or better on either sides And Ped/Neo:15-350bpm or better  <b>Respiration</b>  Respiration rate: 2~150bpm or better on either side.  <b>SPO2:</b>  Range: 0 ~ 100% or better on either side  <b>Temperature:</b>  Range; 0 -50C° (32 - 122F°)  <b>NIBP:</b>  Range: Adult: SYS 25-290mmHg DIA 10-250mmHg Average: 15- 260mmHg  Pediatric: SYS:25-240mmHg DIA:10-200mmHg Average:15- 215mmHg  Neonatal: SYS:25-140mmHg DIA:10-115mmHg Average :15- 125mmHg  <b>Alarm</b>  Alarm: All parameters on/off selective independently  Power input 220Vac,50Hz  With Battery Backup time: Minimum 05 hours 2-4 hours or better  <b>ACCESSORIES:</b></p> <ul style="list-style-type: none"> <li>• ECG 5 Lead cable. 1</li> <li>• Disposable Electrodes Adult, Neonate &amp; Paeds. 20 each</li> <li>• SPO2 Finger sensor with fixed or detachable extension (each for adult, Paeds and neonate) 1</li> <li>• NIBP Reusable Neonate, Paeds &amp; Adult Cuff 1</li> <li>• NIBP Hose 1</li> <li>• AC power code 1</li> <li>• Operation Manual 1</li> <li>• ET/CO2 (Side stream) with basic acc. 1</li> <li>• IBP Cable 1</li> <li>• Temperature sensor &amp; cable 1</li> </ul>
6	Central monitoring system	<p>2</p> <p>Central Station Monitor for use in intensive and coronary care units  Unit shall be capable of monitoring a minimum of 08 beds and a maximum of 64 beds with 32 inches monitor. <b>Mandatory</b>  Shall provide Most recent 240 hours of tabular trends and graphic trends for all parameters  Shall allow instant alarm bed viewing  Each bed monitor window shall always be displayed  The user shall be able to easily configure the display  Shall be capable of producing a shift report including graphic trends report, tabular trends report, full disclosure overview report, full disclosure detail report, waveform segment report, event report, 12-lead interpretation report, multi-lead ECG report, ST report, ECG summary report, Arrhythmia statistics report etc provide graphical analytic tool for myocardial ischemia which can help to quickly view the ST value changes  Shall be supplied with the following:-  Installation Kit including Hub Controller, cabling (according to the need of institution)  Laser Printer Interface, Laser Printer (Model and Make must be mentioned)  Central Monitor Size (Model and Make must be mentioned): 32" or better  Software from same manufacturer with all certificates  Branded CPU (Model and Make must be mentioned):  Intel Core i5 or better  Processor 2.40GHz or better  4GB RAM or better  1TB internal Hard Disk or better  DVD R/W  With Keyboard and Mouse  All the parameters displayed on the monitors should also be displayed on the central station monitor and should be compatible with each other.</p>

7	12 channel E.C.G Machine	6 12 Channel ECG Description: 12 channel interpretive resting electrocardiograph. Input channels: Simultaneous acquisition of 12 leads. ECG sampling rate: 1000 samples/second/channel or better Pacer detection sampling rate:16,000 samples/second/channel Pre- or post-acquisition, provide 10 seconds of instantaneous ECG acquisition, with interpretation 10" or more LCD display. ADC:24bits, resolution:1uV/LSB <b>Mandatory</b> Voltage 220 volts, 50hz Inbuilt thermal recorder for printing out 12 channels simultaneously on Z-fold paper. USB flash drive storage of PDF and XML outputs Support the 12-lead ECG analysis program for complete ECG Analysis reports with measurement data table should be provided. Must be able to indicate at least six critical values that require immediate clinical attention. Preview and review full ECG report on screen Must have continuous display of patient heart and rate AC as well battery operated, battery backup time 3 hours or better. Must have integrated pediatric analysis. Can save up to 700 ECGs in internal memory or more Complete with Patient Cable, Reusable Electrodes Set, ECG Rolls 20 Nos, Gel 5 litres and Standard Accessories with each unit
8	Phototherapy units with Blue and Day light F.L. Lamps	12 Infant Phototherapy Optimal wave length spectrum 430-490nm Baby Positioning should be monitored with unique light Physical Characteristics Screen: Size: 4.3" touch screen, or better Brightness: adjustable from 1-5 or better Power: 25W or better Noise level: 20 dB or less Red light positioning: Red light positioning function is triggered when machine is power on, and automatically close after the blue light on. Working mode: Automatic mode, Normal mode Over-temp protection: Cut off the LED power at 70±5°C or better LED light life span: 50,000 hours or better LED usage in hours: Automatically record by system Treatment timer: Countdown, setting range from 1~99h, step by 1 hour or better Camera: Real-time monitoring of the baby status Trolley: With angle and height adjustable, Irradiance Performance Wavelength: 400-550nm in a unit of mW/cm <sup>2</sup> or better 430-490nm in a unit of μW/cm <sup>2</sup> /nm or better Ordinary mode: 5 levels, step by 20%, 40%, 60%, 80%, 100% or better Automatic mode: 5 levels, working distance 350mm, 12.6μW/cm <sup>2</sup> /nm or 0.76 mW/cm <sup>2</sup> to 63μW/cm <sup>2</sup> /nm or 3.8 mW/cm <sup>2</sup> or better Effective surface of the blue light (Elliptic spot): 30×16cm (Distance 35cm) to 40×24cm (Distance 60cm) or better Average irradiance within the effective surface (set 100% or 3μW/cm <sup>2</sup> /nm or 3.8 mW/cm <sup>2</sup> ): 2.7mW/cm <sup>2</sup> (45μW/cm <sup>2</sup> /nm) (Distance 350mm) to 1.4mW/cm <sup>2</sup> (25μW/cm <sup>2</sup> /nm) (Distance 600mm) or better Maximum irradiance within the effective surface (set 100% or 3μW/cm <sup>2</sup> /nm or 3.8 mW/cm <sup>2</sup> ): 3.8mW/cm <sup>2</sup> (45μW/cm <sup>2</sup> /nm) (Distance 350mm) to 1.5mW/cm <sup>2</sup> (25μW/cm <sup>2</sup> /nm) (Distance 600mm) or better Irradiance unit: μW/cm <sup>2</sup> /nm or mW/cm <sup>2</sup> Irradiance uniformity: >0.4 or better

**Note: Single Certificate is mandatory from the following and it shall be online verifiable**

1. CE/EC (European )
2. US-FDA (US-Food and Drugs Authority)
3. MHLW (Ministry of Health Labor and Welfare)

