

HSCC (India) Limited

Amendment – I dated 06.03.18

Tender Enquiry No.: HSCC/TRIHMS/Medical Equipment/2018/01 Dated 19/02/2018.

Bidders are requested to note the revision in the specification of the following items:

Item List:

S. No.	Item	Departments	EMD (INR)
1*	Central Cardiac Monitor (1no.) with Bedside Cardiac Monitors (5no.)	For ICCU	1,50,000/-
2*	Central Cardiac Monitor (1no.) with Multipara Monitors (5no.)	For NICU/PICU	1,20,000/-
3*	Central Monitor (1no.) with Multipara Monitors (5no.)	For SICU/RICU	1,20,000/-
4*	Multipara Monitors (5no.)	For ICU	70,000/-
5	Defibrillators –9no.	3no. for ICCU + 2 no. Ped. for NICU/PICU + 2no. for RICU/SICU + 2no. for ICU = 9 no.	1,80,000/-
6	ICU Ventilators – 15 no.	5 no. for ICCU + 5 no. for RICU/SICU + 5 no. for ICU = 15 no.	7,50,000/-
7	Neonatal Ventilators – 5 no.	5 no. (Neonatal) for NICU/PICU	2,50,000/-
8	IV Fluid Warmer – 15 no.	5no. for ICCU + 5no. for RICU/SICU + 5no. for ICU = 15no.	21,000/-
9	Blood Gas Analyzer -4no.	1no. for ICCU + 1no. for NICU/PICU + 1 no. for RICU/SICU + 1no. for ICU = 4no.	2,40,000/-
10	Syringe Infusion Pump – 10no.	5no. for NICU/PICU + 5 no. for RICU/SICU = 10no.	14,000/-
11	Infusion Pump (10no.)	5no. for ICCU + 5 no. for ICU = 10no.	14,000/-

12	Transcutaneous Billirubinometer – 5no.	5no. for NICU/PICU	50,000/-
13	Radiant Warmer – 6no.	3no. (Infant) for NICU/PICU + 3no. (Neonatal) for NICU/PICU= 6no.	72,000/-
14**	Aneasthesia Workstation	4no. for OT	2,64,000/-
15	High Definition Laparoscopic Full Set with all Accessories	2no. for OT	1,20,000/-
16	C-Arm with Image Intensifier	1no. for OT	1,00,000/-
17	Upper GI Endoscopy	1no. for OT	70,000/-
18	Electro Cautery Machine with Vessel Sealer	4no. for OT	2,00,000/-
19	OT Table Remote Operated	4no. for OT	2,00,000/-
20	Fiber-optic Video Laryngoscope (Adult & Ped.)	2no. for OT	60,000/-

***Monitor Item Nos. 1, 2, 3 & 4 shall be clubbed together and to be supplied by the same Vendor. Also, single EMD of Rs. 4,60,000/- shall be provided for the same.**

**** Amendment for Item No. 14 “Anaesthesia Work Station” will be uploaded later.**

- **All Equipment and Instrument should be USFDA/ European CE/ BIS approved.**
- **The Bidder should have service centre in Delhi/ Kolkata/ Guwahati/ Naharlagun.**

Sr. No.	Technical Specifications	Amended Technical Specification
1.	Item No. 1, 2 & 3 1. Central Cardiac Monitor with Bed Side Cardiac Monitors 1. Central Station 1.1. Central station for bedside monitors with independently controlled. 21" multi-color TFT Monitor Medical Grade, complete with Ethernet LAN cabling, alarm management, full disclosure of all the waveforms for 72 hours trending, bed to bed viewing of waveforms and remote alarm management like silencing of alarms etc. Central station should be valid USFDA approved with certification. 1.2 Central Station to have capability to display at least 16 beds	Item No. 1, 2 & 3 1. Central Cardiac Monitor with Bed Side Cardiac Monitors 1. Central Station 1.1. Central station for bedside monitors with independently controlled. 21" multi-color TFT Monitor Medical Grade, complete with Ethernet LAN cabling, alarm management, full disclosure of all the waveforms for 72 hours trending, bed to bed viewing of waveforms and remote alarm management like silencing of alarms etc. Central station should be valid USFDA/European CE/BIS approved with certification. 1.2 Central Station to have capability to display at least 16 beds Equipment

<p>Equipment Specifications for Complete Monitoring System.</p> <p>2. Description of Function</p> <p>2.1 Critical patients need to be monitored continuously in ICU and bedside with central monitors.</p> <p>3. Operational Requirements</p> <p>3.1 ICU should comprise of modular monitors at the bedside and with central station.</p> <p>3.2 Capability of storage of patient data.</p> <p>3.3 Demonstration of the equipment is a must.</p> <p>3.4. Technical Specifications.</p> <p>3.5 Multi colored TFT/LCD display of sizes as specified.</p> <p>3.6 Eight digital and waveforms/traces display.</p> <p>3.7 Combination of single, dual and multi parameter modules.</p> <p>3.8 Parameter modules freely exchangeable between all the monitors.</p> <p>3.9 Multi-channel ST segment analysis.</p> <p>3.10 Facility to monitor and display ECG, Respiration, NIBP, SPO2(Masimo technology), Temp. 2 channel.</p> <p>3.11 Monitor should have 12-lead ECG Monitoring capability simultaneously.</p> <p>3.12 Automatic arrhythmia detection & alarm for standard and lethal arrhythmia.</p> <p>3.13 EtCO2 – Side stream/main stream. Display both inspired and expired values, showing capnography.</p> <p>3.14 Should provide hemodynamic, oxygenation, Ventilation calculation package.</p> <p>3.15 Should have drug calculation package.</p> <p>3.16 Trend of at least 72 hours for 19”& 21 Monitors, 24 hours trending for 15”monitor.</p> <p>3.17 Monitors should be HL7 compatible.</p> <p>3.18 Minimum 50 nos. event recall/snapshot facility automatically triggered by alarm.</p> <p>3.19 EEG, BIS, NMT,3 additional IBP's- modules to be offered as per the nos. specified which help clinicians in guiding fluid management.</p> <p>3.20.Web browsing facility to review each network monitors data through hospital LAN via office PC in Hospital LAN Network and / or through</p>	<p>Specifications for Complete Monitoring System.</p> <p>2. Description of Function</p> <p>2.1 Critical patients need to be monitored continuously in ICU and bedside with central monitors.</p> <p>3. Operational Requirements</p> <p>3.1 ICU should comprise of modular monitors at the bedside and with central station.</p> <p>3.2 Capability of storage of patient data.</p> <p>3.3 Demonstration of the equipment is a must.</p> <p>3.4. Technical Specifications.</p> <p>3.5 Multi colored TFT/LCD display of sizes as specified.</p> <p>3.6 Eight digital and waveforms/traces display.</p> <p>3.7 Combination of single, dual and multi parameter modules.</p> <p>3.8 Parameter modules freely exchangeable between all the monitors.</p> <p>3.9 Multi-channel ST segment analysis.</p> <p>3.10 Facility to monitor and display ECG, Respiration, NIBP, SPO2(Masimo technology), Temp. 2 channel.</p> <p>3.11 Monitor should have 12-lead ECG Monitoring capability simultaneously.</p> <p>3.12 Automatic arrhythmia detection & alarm for standard and lethal arrhythmia.</p> <p>3.13 EtCO2 – Side stream/main stream. Display both inspired and expired values, showing capnography.</p> <p>3.14 Should provide hemodynamic, oxygenation, Ventilation calculation package.</p> <p>3.15 Should have drug calculation package.</p> <p>3.16 Trend of at least 72 hours for 19”& 21 Monitors.</p> <p>3.17 Monitors should be HL7 compatible.</p> <p>3.18 Minimum 50 nos. event recall/snapshot facility automatically triggered by alarm.</p> <p>3.19 EEG, BIS, NMT,3 additional IBP's- modules to be offered as per the nos. specified which help clinicians in guiding fluid management.</p> <p>3.20.Web browsing facility to review each network monitors data through hospital LAN via office PC in Hospital LAN Network and / or through dial up facility from remote location.</p>
--	--

<p>dial up facility from remote location.</p> <p>3.21. The monitors should have monitor-to monitor overview facility.</p> <p>3.22. System should be complete with Computer System, UPS with 1 hour back-up & Laser Printer for each Central station.</p> <p>3.23. The system offered should not be PC based.</p> <p>3.24 System including Modules should be valid USFDA approved with certification.</p> <p>No. of Central Stations with 60 displays & facility to support dual screen (Minimum 21" - 3 nos.)</p> <p>No.of Monitors (Minimum 19" - 20 nos.)</p> <p>3.25 List of additional Modules to be provided in 19" Monitors</p> <p>Three IBP (in each of 20 nos. Monitors)</p> <p>Cardiac output (in each of 20 nos. Monitors)</p> <p>End tidal CO2 (in each of 20 nos. Monitors)</p> <p>NMT (in each of 20 nos. Monitors)</p> <p>EEG (in each of 20 nos. Monitors)</p> <p>BIS (in each of 20 nos. Monitors)</p> <p>All the above modules should be compatible with 19" Monitors.</p> <p>3.26 Accessories</p> <p>ECG Module (3 lead ECG cable- 2 sets per monitor, 5 lead ECG cable-1 set per monitor)</p> <p>SpO2 Probe complete set (2 for Adult, 1 for Pediatric, 1 for neonatal).</p> <p>NIBP cuff complete set (3 per monitor for adult, 2 for pediatric, 1 for neonatal).</p> <p>End tidal CO2 (Adult & Ped. kit 01 per Monitor & Disposables sample lines– 50 tubing per monitor).</p> <p>IBP Reusable Interface Cable (3 per monitor) Disposable pressure transducer kit (10 per monitor).</p> <p>Two Temperature (Rectal/ esophageal & skin probes per monitor).</p> <p>Recorder paper rolls (10 per module).</p> <p>BIS Sensors - 20no. For each module.</p> <p>Accessories for Cardiac Output: One set for each monitor.</p> <p>NMT Monitoring Set.</p> <p>EEG Monitoring set for each monitor.</p> <p>4.0 General Specifications.</p>	<p>3.21. The monitors should have monitor-to monitor overview facility.</p> <p>3.22. System should be complete with Computer System, UPS with 1 hour back-up & Laser Printer for each Central station.</p> <p>3.23. The system offered should not be PC based.</p> <p>3.24 System including Modules should be valid USFDA/European CE/BIS approved with certification.</p> <p>No. of Central Stations with 60 displays & facility to support dual screen (Minimum 21" - 3 nos.)</p> <p>No.of Monitors (Minimum 19" - 5 nos.)</p> <p>3.25 List of additional Modules to be provided in 19" Monitors</p> <p>Three IBP (in each of 5 nos. Monitors)</p> <p>Cardiac output (in each of 5 nos. Monitors)</p> <p>End tidal CO2 (in each of 5 nos. Monitors)</p> <p>NMT (in each of 5 nos. Monitors)</p> <p>EEG (in each of 5 nos. Monitors)</p> <p>BIS (in each of 5 nos. Monitors)</p> <p>All the above modules should be compatible with 19" Monitors.</p> <p>3.26 Accessories</p> <p>ECG Module (3 lead ECG cable- 2 sets per monitor, 5 lead ECG cable-1 set per monitor)</p> <p>SpO2 Probe complete set (2 for Adult, 1 for Pediatric, 1 for neonatal).</p> <p>NIBP cuff complete set (3 per monitor for adult, 2 for pediatric, 1 for neonatal).</p> <p>End tidal CO2 (Adult & Ped. kit 01 per Monitor & Disposables sample lines– 50 tubing per monitor).</p> <p>IBP Reusable Interface Cable (3 per monitor) Disposable pressure transducer kit (10 per monitor).</p> <p>Two Temperature (Rectal/ esophageal & skin probes per monitor).</p> <p>Recorder paper rolls (10 per module).</p> <p>BIS Sensors - 20no. For each module.</p> <p>Accessories for Cardiac Output: One set for each monitor.</p> <p>NMT Monitoring Set.</p> <p>EEG Monitoring set for each monitor.</p> <p>4.0 General Specifications.</p> <p>4.01 Comparative compliance statement to be provided, mentioning page</p>
---	---

	<p>4.01 Comparative compliance statement to be provided, mentioning page and para in the catalogue.</p> <p>4.02 Undertaking that Local after sales Service will be provided round the clock.</p> <p>4.03 Undertaking from Principal that after sales service, spares & accessories will be provided for minimum 10 years after installation.</p> <p>4.04 Warranty for minimum five years and CMC as per rules.</p> <p>4.05 All installation and cabling to be done on turn key basis and cost to be borne by the bidder.</p> <p>4.06 Bidder to inspect the site of installation before quoting, to confirm the site of wall mounts and length of cables to be installed.</p> <p>4.07. Service and user manual in English.</p> <p>5. Environmental factors: No interference with use of electrocautry</p> <p>5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%.</p> <p>5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%.</p> <p>Shall meet valid IEC-60601-1-2: 2001general Requirements of Safety for Electromagnetic Compatibility.</p> <p>6. Power Supply.</p> <p>6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug.</p> <p>6.2 Shall meet the safety requirements as per IEC 60601-2-27:1994— Medical electrical equipment—Part 2: Particular requirements for the safety of electrocardiographic monitoring equipment.</p>	<p>and para in the catalogue.</p> <p>4.02 Undertaking that Local after sales Service will be provided round the clock.</p> <p>4.03 Undertaking from Principal that after sales service, spares & accessories will be provided for minimum 10 years after installation.</p> <p>4.04 Warranty for minimum five years and CMC as per rules.</p> <p>4.05 All installation and cabling to be done on turn key basis and cost to be borne by the bidder.</p> <p>4.06 Bidder to inspect the site of installation before quoting, to confirm the site of wall mounts and length of cables to be installed.</p> <p>4.07. Service and user manual in English.</p> <p>5. Environmental factors: No interference with use of electrocautry</p> <p>5.1 The unit shall be capable of being stored continuously in ambient temperature of 0 - 50deg C and relative humidity of 15-90%.</p> <p>5.2 The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%.</p> <p>Shall meet valid IEC-60601-1-2: 2001general Requirements of Safety for Electromagnetic Compatibility.</p> <p>6. Power Supply.</p> <p>6.1 Power input to be 220-240VAC, 50Hz fitted with Indian plug.</p> <p>6.2 Shall meet the safety requirements as per IEC 60601-2-27:1994— Medical electrical equipment—Part 2: Particular requirements for the safety of electrocardiographic monitoring equipment.</p>
2.	Multipara Monitors	No changes.
3.	<p>5. Defibrillators</p> <p>1. Defibrillator should use low energy biphasic waveform for delivering shock energy & must have energy.</p> <p>2. selection from 1-200J as per AHA 2010 guidelines in AED as well as manual mode.</p> <p>3. Should have facility to do ECG monitoring, transcutaneous pacing, defibrillation, synchronized cardio version with CPR feedback to measure chest compression rate & depth in real time & should also provide visual & audible feedback.</p> <p>4. Must be capable of monitoring ECG through ECG cables, multiple</p>	<p>5. Defibrillators</p> <p>1. Defibrillator should use low energy biphasic waveform for delivering shock energy & must have energy.</p> <p>2. selection from 1-200J as per AHA 2010 guidelines in AED as well as manual mode.</p> <p>3. Should have facility to do ECG monitoring, transcutaneous pacing, defibrillation, synchronized cardio version with CPR feedback to measure chest compression rate & depth in real time.</p> <p>4. Must be capable of monitoring ECG through ECG cables, multiple function electrodes/pads & external paddles.</p>

	<p>function electrodes/pads & external paddles.</p> <p>5. Unit should have adult & in-built paediatric external paddles & should be able to defibrillate both adult & paediatric patients.</p> <p>6. Facility for increase/decrease energy selection on paddles as well as on the unit. Should have ECG printout facility.</p> <p>7. Machine should be compact & portable with in built rechargeable battery for atleast 3 hr. Of continuous.</p> <p>8. ECG monitoring & should be weighing less than 10 kg. with battery & paddles.</p> <p>9. Defibrillator should have facility to upgrade for Spo2, NIBP & EtCO2 monitoring parameters. Should have facility for external non-invasive pacing.</p> <p>10. Should have user selectable alarm settings. Should work on mains as well as rechargerable battery. Should be supplied with following acc.:</p> <p>10.1. Battery: 1no.</p> <p>10.2. 3/5 Lead ECG cable – 2no.</p> <p>10.3 External defibrillator paddles (ped & adult)- Each 1 no.</p> <p>10.4 Multi-function defibrillator & monitoring pads/gel sheets – 250nos.</p> <p>10.5 Reusable CPR feedback sensor/or similar product – 5 nos. per monitor.</p> <p>11. Should be USFDA approved product.</p>	<p>5. Unit should have adult & in-built paediatric external paddles & should be able to defibrillate both adult & paediatric patients.</p> <p>6. Facility for increase/decrease energy selection on paddles as well as on the unit. Should have ECG printout facility.</p> <p>7. Machine should be compact & portable with in built rechargeable battery for atleast 3 hr. Of continuous.</p> <p>8. ECG monitoring & should be weighing less than 10 kg. with battery & paddles.</p> <p>9. Defibrillator should have facility to upgrade for Spo2, NIBP & EtCO2 monitoring parameters. Should have facility for external non-invasive pacing.</p> <p>10. Should have user selectable alarm settings. Should work on mains as well as rechargerable battery. Should be supplied with following acc.:</p> <p>10.1. Battery: 1no.</p> <p>10.2. 3/5 Lead ECG cable – 2no.</p> <p>10.3 External defibrillator paddles (ped & adult)- Each 1 no.</p> <p>10.4 Multi-function defibrillator & monitoring pads/gel sheets – 250nos.</p> <p>10.5 Deleted.</p> <p>11. Should be USFDA/ European CE/ BIS approved product.</p>
4.	<p>Specifications for neonatal ventilators</p> <p>1. The ventilator should be microprocessor controlled designed for neonatal use with possibility to upgrade with additional features.</p> <p>2. Continuous flow, pressure limited, time cycled ventilator design.</p> <p>3. Ventilator should be US FDA and European CE certified and the company should submit the respective certificate of US FDA and European CE.</p> <p>4. Ventilator should be provided with good quality medical air compressor (European CE/US FDA) marked. Also the ventilator should be operational with central compressed air supply also.</p> <p>5. One Training CD/DVD to be provided with each ventilator.</p>	<p>Specifications for neonatal ventilators</p> <p>1. The ventilator should be microprocessor controlled designed for neonatal use with possibility to upgrade with additional features.</p> <p>2. Continuous flow, pressure limited, time cycled ventilator design.</p> <p>3. Ventilator should be US FDA/ European CE certified/ BIS and the company should submit the respective certificate of US FDA/ European CE/ BIS.</p> <p>4. Ventilator should be provided with good quality medical air compressor (European CE/US FDA/BIS) marked. Also the ventilator should be operational with central compressed air supply also.</p> <p>5. One Training CD/DVD to be provided with each ventilator.</p> <p>6. The ventilator should be supplied with a servo controlled heated</p>

<p>6. The ventilator should be supplied with a servo controlled heated wire humidifier (autoclavable) along with a autoclavable and reusable patient circuit.</p> <p>7. Battery- back up of minimum 30 minutes. The battery should be integrated and provide backup to both ventilator and air compressor.</p> <p>8. The ventilator should have integrated nebulizer facility with capability to deliver fine particle size of .5_ 3 micron aerosols and to be used in on line with ventilator.</p> <p>9. Ventilator modes:</p> <ul style="list-style-type: none"> - IMV/IPPV - CPAP INCLUDING NON INVASIVE VENTILATION - SIMV, SIPPV/Assist control - Presssure support mode of ventilation - Apnea back up ventilation - High frequency oscillatory ventilation- oscillating diaphragm/jet/piston based with active expiration. <p>In high frequency mode, the ventilator must be able to provide high frequency ventilation successfully to entire neonatal weight range i.e. (500gm to 4 kg).</p> <ul style="list-style-type: none"> -Volume targeted/ guarantee mode of ventilation with ability to deliver and monitor tidal volume as low as 1-2 ml. (range- 2mI to 50 ml). <p>10. Ventilator should have the following features in Pressure support/Volume guarantee mode:-</p> <ul style="list-style-type: none"> - It should be possible to give leakage adapted inspiratory trigger during pressure support to spontaneously breathing patients with a set volume guarantee. - Volume guarantee should be regulated with lowest possible airway pressure within a set of PIP. - It should be possible to adjust the volume guarantee manually as per patient requirement. <p>11. Should have integrated high resolution LCD screen (minimum 10 inch color display) with touch screen facility for real time display of scalar (pressure, flow and volume against time) and loop (pressure-volume, volume-flow and pressure-flow). Graphic</p>	<p>wire humidifier (autoclavable) along with a autoclavable and reusable patient circuit.</p> <p>7. Battery- back up of minimum 30 minutes. The battery should be integrated and provide backup to both ventilator and air compressor.</p> <p>8. The ventilator should have integrated nebulizer facility with capability to deliver fine particle size of .5_ 3 micron aerosols and to be used in on line with ventilator.</p> <p>9. Ventilator modes:</p> <ul style="list-style-type: none"> - IMV/IPPV - CPAP INCLUDING NON INVASIVE VENTILATION - SIMV, SIPPV/Assist control - Presssure support mode of ventilation - Apnea back up ventilation - High frequency oscillatory ventilation- oscillating diaphragm/jet/piston based with active expiration. <p>In high frequency mode, the ventilator must be able to provide high frequency ventilation successfully to entire neonatal weight range i.e. (500gm to 4 kg or more).</p> <ul style="list-style-type: none"> -Volume targeted/ guarantee mode of ventilation with ability to deliver and monitor tidal volume as low as 1-2 ml. (range- 2mI to 50 ml). <p>10. Ventilator should have the following features in Pressure support/Volume guarantee mode:-</p> <ul style="list-style-type: none"> - It should be possible to give leakage adapted inspiratory trigger during pressure support to spontaneously breathing patients with a set volume guarantee. - Volume guarantee should be regulated with lowest possible airway pressure within a set of PIP. - It should be possible to adjust the volume guarantee manually as per patient requirement. <p>11. Should have integrated high resolution LCD screen (minimum 10 inch color display) with touch pad/touch screen facility for real time display of scalar (pressure, flow and volume against time) and loop (pressure-volume, volume-flow and pressure-flow). Graphic display of at least 3</p>
--	--

<p>display of at least 3 waveforms together out of choice of flow, volume and pressure versus time with a facility to freeze these waveforms. Facility for loops together with ,a facility to freeze the same. Should have graphical as well as tabular trend facility of data upto 24 hours.</p> <p>12. Digital display of FiO2, peak pressure, MAP, CPAP/PEEP, expiratory tidal volume, expiratory minute volume, total frequency, spontaneous frequency, lung function monitoring including compliance, resistance, lung distension coefficient (C20/C), lung time constant, rate volume ratio etc.</p> <p>13. Should have built in log book for recording events like various alarms.</p> <p>14. Integrated monitoring: Integrated volume and pressure monitoring i.e. monitoring of PEEP Pmax, Pmean and VT, VTspont, MV and MVleak. The volume monitoring should have NTPD TO BTPS correction. Integrated monitoring of FiO2.</p> <p>15. Monitoring of I:E, frequency and Spontaneous frequency.</p> <p>16. Settings Range:</p> <ul style="list-style-type: none"> - Trigger flow/volume leak adapted - PIP range — 8 to 60 cm H2O. - PEEP/CPAP — 0 to 20 mbar. - I: E ratio 1.0 to 1: 10. - Inspiratory time 0.1 to 2 seconds. - Expiratory time 0.2 to 30 seconds. - Frequency upto 200 BPM - Base flow (VIVE) 1 to 30 LPM. - Synchronization — patient synchronization with adjustable flow trigger. - Higher frequency amplitude- 1 to 100% - Integrated blender for Oxygen- 21 to 100%. <p>17. Monitoring of flow: at the Y piece with facility to activate or deactivate it.</p>	<p>waveforms together out of choice of flow, volume and pressure versus time with a facility to freeze these waveforms. Facility for loops together with ,a facility to freeze the same. Should have graphical/ tabular trend facility of data upto 24 hours.</p> <p>12. Digital display of FiO2, peak pressure, MAP, CPAP/PEEP, expiratory tidal volume, expiratory minute volume, total frequency, spontaneous frequency, lung function monitoring including compliance, resistance, lung time constant etc.</p> <p>13. Should have built in log book for recording events like various alarms.</p> <p>14. Integrated monitoring: Integrated volume and pressure monitoring i.e. monitoring of PEEP Pmax, Pmean and VT, VTspont, MV and MVleak. The volume monitoring should have NTPD TO BTPS correction. Integrated monitoring of FiO2.</p> <p>15. Monitoring of I:E, frequency and Spontaneous frequency.</p> <p>16. Settings Range:</p> <ul style="list-style-type: none"> - Trigger flow/volume leak adapted - PIP range — 8 to 60 cm H2O. - PEEP/CPAP — 0 to 20 mbar. - I: E ratio 1.0 to 1: 10. - Inspiratory time 0.1 to 2 seconds. - Expiratory time 0.2 to 30 seconds. - Frequency upto 200 BPM - Base flow (VIVE) 1 to 30 LPM. - Synchronization — patient synchronization with adjustable flow trigger. - Higher frequency amplitude- 1 to 100% - Integrated blender for Oxygen- 21 to 100%. <p>17. Monitoring of flow: at the Y piece with facility to activate or deactivate it.</p> <p>18. Should measure parameters in HFOV like: DCO2, VtHF, MVim, VTim.</p> <p>19. Audio-visual alarms with advisory on-screen message: MV high/low; Apnea; Tube obstruction; Fio2 high/low; PIP high/low;</p>
---	---

<p>18. Should measure parameters in HFOV like: DCO₂, VtHF, MV_{im}, VTim.</p> <p>19. Audio-visual alarms with advisory on-screen message: MV high/low; Apnea; Tube obstruction; Fio₂ high/low; PIP high/low; PEEP/CPAP low/high; fail to cycle, gas supply low, power failure, ventilator inoperative; alarm log book.</p> <p>20. The ventilator should show trends of important parameters viz: C,R,Fio₂,MAP etc. for evaluation of patient improvement.</p> <p>21. The ventilator should have automatic compensation for leakage and should monitor and display leakages</p> <p>22. Ventilator should have upgradation facility with EtCO₂. It should have facility to set up expiratory flow different than inspiratory flow to help in EtCO₂ flush.</p> <p>23. Oxygen sensor: The ventilator should have permanent electronic Oxygen sensor. The company should provide lifetime warranty on Oxygen sensor and replace free of cost if it becomes malfunctional. The machine should have automatic calibration for Oxygen sensor.</p> <p>24. Scope of supply (with each ventilator)</p> <ul style="list-style-type: none"> - Ventilator on trolley with wheels and brake facility. - Circuit support arm for holding the circuit. - Integral medical air compressor(European CE approved) - Humidifier- servo controlled heated wire humidifier (autoclavable)-2 with each ventilator. (European CE/US FDA approved) - 2 hose sets for conventional (autoclavable and reusable) neonatal ventilation circuit. - 5 hose sets of disposable conventional neonatal ventilator circuit. - 1 hose set for High frequency ventilation (autoclavable and reusable) - Bacterial filters - Flow sensors (2 reusable and autoclavable with each ventilator). If disposable- then minimum 30 to be supplied with each ventilator. 	<p>PEEP/CPAP low/high; fail to cycle, gas supply low, power failure, ventilator inoperative; alarm log book.</p> <p>20. The ventilator should show trends of important parameters viz: C,R,Fio₂,MAP etc. for evaluation of patient improvement.</p> <p>21. The ventilator should have automatic compensation for leakage and should monitor and display leakages</p> <p>22. Ventilator should have upgradation facility with EtCO₂. It should have facility to set up expiratory flow different than inspiratory flow to help in EtCO₂ flush.</p> <p>23. Oxygen sensor: The ventilator should have permanent electronic Oxygen sensor galvanic. The company should provide lifetime warranty on Oxygen sensor and replace free of cost if it becomes malfunctional. The machine should have automatic calibration for Oxygen sensor.</p> <p>24. Scope of supply (with each ventilator)</p> <ul style="list-style-type: none"> - Ventilator on trolley with wheels and brake facility. - Circuit support arm for holding the circuit. - Integral medical air compressor(European CE approved) - Humidifier- servo controlled heated wire humidifier (autoclavable)- 2 with each ventilator. (European CE/US FDA/BIS approved) - 2 hose sets for conventional (autoclavable and reusable) neonatal ventilation circuit. - 5 hose sets of disposable conventional neonatal ventilator circuit. - 1 hose set for High frequency ventilation (autoclavable and reusable) - Bacterial filters - Flow sensors (2 reusable and autoclavable with each ventilator). If disposable- then minimum 300 to be supplied with each ventilator. - Oxygen sensor. - Oxygen connecting hose - Air connecting hose - Test lung (one with each ventilator) - Heater wire (3 each) - Temperature probe (3 each)
---	---

<ul style="list-style-type: none"> - Oxygen sensor. - Oxygen connecting hose - Air connecting hose - Test lung (one with each ventilator) - Heater wire (3 each) - Temperature probe (3 each) - Expiratory valve/expiratory cassette (2 reusable, autoclavable with each ventilator) - Nasal interface (3 in number) with nasal mask (4 each of all sizes) and nasal prongs (4 each of all sizes) and bonnet (5 each of only preterm size) with each ventilator. - Integral battery (back up 30 minutes) - Instruction manual (original, not photocopy). - Original literature and not photocopy to be supplied with quotation. - Training cd/dvd (I each) <p>25. Items covered under warranty/CMC:</p> <ul style="list-style-type: none"> - Prices of all consumables/accessories/essential spares/expanables should be quoted separately and frozen for the period including warranty and CMC. <p>26. The company should provide local functional service facility for after sales service and should have necessary equipments to carry out preventive maintenance tests.</p> <p>27. Onsite physical demonstration and training of the equipment to all the end users with all the requested facilities is mandatory.</p> <p>28. Company should certify that the model quoted is latest and not obsolete and spares and consumables are available for 6 years after warranty.</p> <p>29. The ventilator should have:</p> <ul style="list-style-type: none"> - RS 232C port for data transfer and software compatible with windows. - Provision for future software/hardware upgrades should be 	<ul style="list-style-type: none"> - Expiratory valve/expiratory cassette (2 reusable, autoclavable with each ventilator) - Nasal interface (3 in number) with nasal mask (4 each of all sizes) and nasal prongs (4 each of all sizes) and bonnet (5 each of only preterm size) with each ventilator. - Integral battery (back up 30 minutes) - Instruction manual (original, not photocopy). - Original literature and not photocopy to be supplied with quotation. - Training cd/dvd (I each) <p>25. Items covered under warranty/CMC:</p> <ul style="list-style-type: none"> - Prices of all consumables/accessories/essential spares/expanables should be quoted separately and frozen for the period including warranty and CMC. <p>26. The company should provide local functional service facility for after sales service and should have necessary equipments to carry out preventive maintenance tests.</p> <p>27. Onsite physical demonstration and training of the equipment to all the end users with all the requested facilities is mandatory.</p> <p>28. Company should certify that the model quoted is latest and not obsolete and spares and consumables are available for 6 years after warranty.</p> <p>29. The ventilator should have:</p> <ul style="list-style-type: none"> - RS 232C port for data transfer and software compatible with windows. - Provision for future software/hardware upgrades should be available. <p>Optional: PC software for archiving and analysis and Communication interface with laptop</p>
--	---

	<p>available. Optional: PC software for archiving and analysis and Communication interface with laptop</p>	
5.	<p>6. ICU Ventilators <u>Universal Advanced ICU Ventilator Specification</u></p> <ol style="list-style-type: none"> 1. State of the are ventilator for use in intensive care , critical care intermediate care and emergency care 2. Device must be driven by a high performance built in turbine or an intergrated compressor of the same make as that of ventilator & to be shipped with ventilator the ventilator should switch over to wall air supply automatically in case of a problem & vise versa in case of integrated compressor. 3. Air source should be supplied along with ventilator the compressed air source compressor should be from the same manufacturer price should be separately quoted. 4. Must have US FDA & IEC 610101-3rd edition certification from a reputed EU agency. 5. Life supporting ventilation of adult pediatric infant neonate patient. 6. Should be able to operate on dual limb circuits (only on single –limb circuits not acceptable) should be silicon. 7. Invasive and Non invasive (NIV) Ventilation with automatic leak compensation in NIV 8. Mandatory & spontaneous flow ≥ 180 l/min or more 9. In built Li Ion battery backup o minimum 4 hours. 10. Colour touch s reen fifteen inch or more. 11. USB & RS 232 Connec ions. 12. I built Aeroneb Nebulizer Sys em. 13. Ethernet for connection to hospital network. 14. Automatic barometric compensation. 	<p>6. ICU Ventilators <u>Universal Advanced ICU Ventilator Specification</u></p> <ol style="list-style-type: none"> 1. State of the are ventilator for use in intensive care , critical care intermediate care and emergency care 2. Device must be driven by a high performance or an intergrated compressor of the same make as that of ventilator & to be shipped with ventilator the ventilator should switch over to wall air supply automatically in case of a problem & vise versa in case of integrated compressor. 3. Air source should be supplied along with ventilator the compressed air source compressor should be from the same manufacturer price should be separately quoted. 4. Must have USFDA/European CE/BIS & IEC 610101-3rd edition certification from a reputed EU agency. 5. Life supporting ventilation of adult pediatric infant neonate patient. 6. Should be able to operate on dual limb circuits (only on single – limb circuits not acceptable) should be silicon. 7. Invasive and Non invasive (NIV) Ventilation with automatic leak compensation in NIV 8. Mandatory & spontaneous flow ≥ 180 l/min or more 9. In built Li Ion battery backup o minimum 60 minutes. 10. Colour touch screen 7” (Seven) inch or more. 11. USB or RS 232 Connections. 12. In built Aeroneb Nebulizer System. 13. E hernet for connection to ospital netwo k. 14. Automatic barometric compensation.

<p>15. Complete automatic self check upon startup.</p> <p>16. Animated lung and ventilation summery would be preferred.</p> <p>17. Ventilator Modes.</p> <p>18. Pressure Controlled /assisted /SIMV Ventilation.</p> <p>19. Volume controlled /assisted/ SIMV Ventilation.</p> <p>20. CPAP/PEEP</p> <p>21. PRVC or VTPC or similar. VS in PSV Mode</p> <p>22. BPRV /Bivent /Bi-level or similar mode</p> <p>23. APRV</p> <p>24. Synchrony tools: Auto Rise time, Auto Exp. Threshold.</p> <p>25. Advanced intelligent ventilation mode such as ASV intelligent or samrtcare with PPS or PAV + OR NAVA or similar for intelligent ventilation and weaning .</p> <p>26. Non Invasive Ventilation with automatic leakage compensation ≥ 100 L/min Auto mode spontaneous breathing trial.</p> <p>27. Facility of monitoring pleural pressure esophageal pressure diaphragmatic activity desirable and process be quoted separately.</p> <p>28. Inspiratory and expiratory hold.</p> <p>29. O₂ flush customizable from 50 % to 100% O₂ for 2 min .</p> <p>30. ATC automatic tube compensation (fully configurable tube type, diameter compensation level % compensation phase.</p> <p>31. Open lung tool like PV tool with facility to trace lower & upper inflection point.</p> <p>32. In built upgradability to ETCO₂ with main stream technology, price to be quoted separately.</p> <p>33. In built upgradability to SPO₂ monitoring, price to be quoted separately.</p> <p>34. Control Setting</p> <p>35. Quick set up for automatically initial setting according to selected patient type & height based ideal body weight.</p>	<p>15. Complete automatic self check upon startup.</p> <p>16. Animated lung and ventilation summery would be preferred.</p> <p>17. Ventilator Modes.</p> <p>18. Pressure Controlled /assisted /SIMV Ventilation.</p> <p>19. Volume controlled /assisted/ SIMV Ventilation.</p> <p>20. CPAP/PEEP</p> <p>21. PRVC or VTPC or similar. VS in PSV Mode</p> <p>22. BPRV /Bivent /Bi-level or similar mode</p> <p>23. APRV</p> <p>24. Synchrony tools: Auto Rise time, Auto Exp. Threshold.</p> <p>25. Advanced intelligent ventilation mode such as ASV intelligent or samrtcare with PPS or PAV + OR NAVA or similar for intelligent ventilation and weaning .</p> <p>26. Non Invasive Ventilation with automatic leakage compensation ≥ 100 L/min Auto mode spontaneous breathing trial.</p> <p>27. Facility of monitoring pleural pressure esophageal pressure diaphragmatic activity desirable and process be quoted separately.</p> <p>28. Inspiratory and expiratory hold.</p> <p>29. O₂ flush customizable from 50 % to 100% O₂ f r 2 min.</p> <p>30. ATC automatic tube compensation (fully configurable tube type, diameter compensation level % compensation phase.</p> <p>31. Open lung tool like PV tool with facility to trace lower & upper inflection point.</p> <p>32. In built upgradability to ETCO₂ with main stream/ side stream technology, price to be quoted separately.</p> <p>33. Deleted.</p> <p>34. Control Setting</p> <p>35. Quick set up for automatically initial setting according to selected patient type & height based ideal body weight.</p> <p>36. FIO₂</p>
---	--

<p>36. FIO2 TIDAL Volume 37. PC PS 38. PEEP 39. Respiratory rate Insp. Time 40. Flow trigger sensitivity 0.120L/Min 41. Pressure Trigger Sensitivity 0.115 mbar 42. Inspiratory pause 43. Insp. hold & exp hold. 44. Vol control flow waveform –Square Decelerating & 50 % decelerating</p> <p>Patient Monitoring 45. User interface should be fully configurable by the user (doctor, nurse) 46. Simultaneous display of up to 8 curves or loops. 47. Curves Flow Volume Co2 Pulse 48. Loops Volume/flow Pressure /flow Reference loop & loop overlap, freeze facility with cursor. 49. Screen allows free configuration of curves and monitoring parameters 50. Patient proximal flow measurement for neonate infant categories preferred with reusable flow sensor.</p>	<p>TIDAL Volume 37. PC PS 38. PEEP 39. Respiratory rate Insp. Time 40. Flow trigger sensitivity 0.120L/Min 41. Pressure Trigger Sensitivity 0.115 mbar 42. Inspiratory pause 43. Insp. hold & exp hold. 44. Vol control flow waveform –Square Decelerating & 50 % decelerating</p> <p>Patient Monitoring 45. User interface should be fully configurable by the user (doctor, nurse) 46. Simultaneous display of up to 3 curves or 2 loops to be seen simultaneously on one single screen. 47. Curves Flow Volume, Pressure Co2 Deleted. 48. Loops (Any of two loops) Volume/flow Pressure /flow Pressure/ Volume. Reference loop & loop overlap, freeze facility with cursor. 49. Screen allows free configuration of curves and monitoring parameters 50. Patient proximal flow measurement for neonate infant categories preferred with reusable flow sensor.</p>
---	--

<p>51. Exhalation monitoring: Tidal volume, minute volume, for Mand & Spont Breaths.</p> <p>52. Time Monitoring : Rate, insp, time , exp, time ,I:E,</p> <p>53. Pressure monitoring : Peak, plateau, mean PEEP</p> <p>54. Lung Mechanics: Compliance(static and dynamic) , Resistance(insp,and exp) Lung over-distention Parameter</p> <p>55. NIV and spontaneous monitoring : % spontaneous breaths spontaneous inspiration time spontaneous exp. Volume , RSBI</p> <p>56. Maneuver –related monitoring : AUTO PEEP ,PO.1 NIF, negative inspiratory force PEEP I volume</p> <p>57. Capnography Volumetric etco2 mainstream / sidestream, same sensor be interchangeable with in the machines in built realtime co2 curve.</p> <p>58. Pulse oximetry in built pulse Spo2 and pulse curve.</p> <p>59. Wave form freeze and cursor measurement.</p> <p>60. Trending of all monitored parameters for a minimum of 72 hrs or more.</p> <p>61. Export of trending data to computer Export of trending data and real time curves to computer.</p> <p>Alarm;</p> <p>62. Auto matic & manual setting should be possible.</p> <p>63. Should be able to deactivate alarms for VtExp and MVExp in non invasive ventilation.</p> <p>64. Connection to central alarming system</p> <p>65. Alarm history \geq 000 alarms</p> <p>66. Change of ventilation setting will automatically adjust directly related alarms.</p> <p>67. EtCO2 High /low ,inCO2 high</p> <p>68. Pulse high /low Spo2 low</p> <p>Accessories:</p>	<p>51. Exhalation monitoring: Tidal volume, minute volume, for Mand & Spont Breaths.</p> <p>52. Time Monitoring : Rate, insp, time , exp, time ,I:E,</p> <p>53. Pressure monitoring : Peak, plateau, mean PEEP</p> <p>54. Lung Mechanics: Compliance(static and dynamic) , Resistance(insp,and exp) Lung over-distention Parameter</p> <p>55. NIV and spontaneous monitoring : % spontaneous breaths spontaneous inspiration time spontaneous exp. Volume , RSBI</p> <p>56. Maneuver –related monitoring : AUTO PEEP ,PO.1 NIF, negative inspiratory force PEEP I volume</p> <p>57. Capnography Volumetric etco2 mainstream / sidestream, same sensor be interchangeable with in the machines in built realtime co2 curve.</p> <p>58. Deleted.</p> <p>59. Wave form freeze and cursor measurement.</p> <p>60. Trending of all monitored parameters for a minimum of 72 hrs or more.</p> <p>61. Export of trending data to computer Export of trending data and real time curves to computer.</p> <p>Alarm;</p> <p>62. Auto matic & manual setting should be possible.</p> <p>63. Should be able to deactivate alarms for VtExp and MVExp in non invasive ventilation.</p> <p>64. Connection to central alarming system</p> <p>65. Alarm history \geq2000 alarm</p> <p>66. Change of ventilation setting will automatically adjust directly related alarms.</p> <p>67. EtCO2 High /low ,inCO2 high</p> <p>68. Pulse high /low Spo2 low</p> <p>Accessories</p>
--	--

	<p>69. Trolley with circuit support arm from the same manufacturer.</p> <p>70. Compressor of the same make as ventilator to be shipped along with ventilator.</p> <p>71. Circuit reusable</p> <p>72. O2 Supply hose</p> <p>73. Test lung: Neonatal, pediatric, adult from the same manufacturer to be quoted separately.</p> <p>74. Etco2 main stream sensor & spo2 sensor(price to be offered separately)</p> <p>75. Demonstration must be mandatory.</p> <p>76. Must submit user list & performance report within last 5 years from major hospital.</p> <p>77. Back to back warranty to be taken by the supplier from the principal to supply spares for minimum 10 years.</p> <p>78. Comprehensive warranty for 5 years</p> <p>79. Comprehensive maintenance contract for 5 years</p>	<p>69. Trolley with circuit support arm from the same manufacturer.</p> <p>70. Compressor of the same make as ventilator to be shipped along with ventilator.</p> <p>71. Circuit reusable</p> <p>72. O2 Supply hose</p> <p>73. Test lung: Neonatal, pediatric, adult from the same manufacturer to be quoted separately.</p> <p>74. Etco2 main stream sensor & spo2 sensor(price to be offered separately)</p> <p>75. Demonstration must be mandatory.</p> <p>76. Must submit user list & performance report within last 5 years from major hospital.</p> <p>77. Back to back warranty to be taken by the supplier from the principal to supply spares for minimum 10 years.</p> <p>78. Comprehensive warranty for 5 years</p> <p>79. Comprehensive maintenance contract for 5 years</p>
6.	<p>8. I/V Fluid Warmer</p> <p>1. Flow Rates should be from kvo to 150ml/min</p> <p>2. Should have temperature range of 36degree C to 420 degree C</p> <p>3. Should be easily transportable</p> <p>4. Should able to attach to I V pole and standard electrical sockets</p> <p>5. Should use dry heat technology</p> <p>6. Should have audible and visual alarms for Temperature</p> <p>7. Should have automatic cutoff for set temperature</p> <p>8. Should be easy to use and to clean</p> <p>9. Calibration certificate should be issued during the installation</p> <p>10. 5 disposable adult and 1 no. of pediatric warming sets should be supplied along with each machine</p> <p>11. Warm up time should be less than 60 seconds</p> <p>12. Consumables should have built in filter</p> <p>13. Should have safety certificate from a competent authority CE / FDA</p>	<p>8. I/V Fluid Warmer</p> <p>1. Flow Rates should be from kvo to 150ml/min</p> <p>2. Should have temperature range of 36degree C to 420 degree C</p> <p>3. Should be easily transportable</p> <p>4. Should able to attach to I V pole and standard electrical sockets</p> <p>5. Should use dry heat technology</p> <p>6. Should have audible and visual alarms for Temperature</p> <p>7. Should have automatic cutoff for set temperature</p> <p>8. Should be easy to use and to clean</p> <p>9. Calibration certificate should be issued during the installation</p> <p>10. 5 disposable adult and 1 no. of pediatric warming sets should be supplied along with each machine</p> <p>11. Warm up time should be less than 60 seconds</p> <p>12. Consumables should have built in filter</p> <p>13. Should have safety certificate from a competent authority European</p>

	(US) / STQC CB certificate / STQC S certificate or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate / test report shall be produced along with the technical bid	CE/ BIS / FDA (US) / STQC CB certificate / STQC S certificate or valid detailed electrical and functional safety test report from ERTL. Copy of the certificate / test report shall be produced along with the technical bid
7.	<p>9. Arterial Blood Gas Analyzers.</p> <p>1. Measured parameters: Routine parameters : pH, pCO₂, pO₂, Cl, Na, K, Ca, Hb, glucose, lactate. Special parameters: SaO₂ with co-oximetry Calculated parameters: Std. pH, pCO₂, pO₂, aH⁺, HCO₃, Hct, Std.HCO₃, O₂ Sat, BE, BEecf, BB, O₂ content, TCO₂.</p> <p>2. Sample size: upto 250uL.</p> <p>3. Throughput: approx. 30 samples per hour for all parameters.</p> <p>4. Printer: Suitable in-built printer.</p> <p>5. Calibration: Automatic in cycle system.</p> <p>6. Provision for auto QC facility should be available.</p> <p>7. Display: Digital display on the screen</p> <p>8. Electrodes: Maintenance free/low maintenance . Free replacement of all electrodes / membranes (free of cost) should be included in the warranty period. Electrode should be individually replaced(and not as single pack/cassette/cartridge together).</p> <p>9. Memory: More than 500 patients memory.</p> <p>10. Should have USFDA and European CE approved product.</p> <p>11. Manufacturer must be manufacturing reagents/kits needed for the machine.</p> <p>12. The firm should quote the prices of all consumables and the prices will be frozen for five years. The system must be supplied with necessary pre-requisites and start up kits for installation and training free of cost with required calibrators, controls and other liquid consumables for 3 months @30 samples/day each instruments for all the routine parameters such as pH, pCO₂, pO₂, Cl, Na, K, Ca, Hb , glucose, lactate .</p> <p>13. Calibrators for all the above tests in suitable volume for above mentioned workload, Controls for all the above tests (normal and abnormal) in suitable volume for above mentioned workload and any other liquid consumables must also be provided for 3months.</p> <p>14. The bidders must quote the prices of other consumables required for the special parameters (apart from the routine parameters mentioned) and</p>	<p>9. Arterial Blood Gas Analyzers.</p> <p>1. Measured parameters: Routine parameters : pH, pCO₂, pO₂, Cl, Na, K, Ca, Hb, glucose, lactate. Special parameters: SaO₂ with co-oximetry Calculated parameters: Std. pH, pCO₂, pO₂, aH⁺, HCO₃, Hct, Std.HCO₃, O₂ Sat, BE, BEecf, BB, O₂ content, TCO₂.</p> <p>2. Sample size: upto 250uL.</p> <p>3. Throughput: approx. 30 samples per hour for all parameters.</p> <p>4. Printer: Suitable in-built printer.</p> <p>5. Calibration: Automatic in cycle system.</p> <p>6. Provision for auto QC facility should be available.</p> <p>7. Display: Digital display on the screen</p> <p>8. Electrodes: Maintenance free/low maintenance . Free replacement of all electrodes / membranes (free of cost) should be included in the warranty period. Electrode should be individually replaced(and not as single pack/cassette/cartridge together).</p> <p>9. Memory: More than 500 patients memory.</p> <p>10. Should have USFDA/ European CE/ BIS approved product.</p> <p>11. Manufacturer must be manufacturing reagents/kits needed for the machine.</p> <p>12. The firm should quote the prices of all consumables and the prices will be frozen for five years. Firm to quote cost of sample based on 30 samples per day for 5 years and this will be considered forevaluation purpose.The system must be supplied with necessary pre-requisites and start up kits for installation and training free of cost with required calibrators, controls and other liquid consumables for 3 months @30 samples/day each instruments for all the routine parameters such as pH, pCO₂, pO₂, Cl, Na, K, Ca, Hb , glucose, lactate .</p> <p>13. Calibrators for all the above tests in suitable volume for above mentioned workload, Controls for all the above tests (normal and abnormal) in suitable volume for above mentioned workload and any other liquid consumables must also be provided for 3months.</p>

	<p>these prices will be frozen for 5 years. Any consumable not quoted in this table but essential for performing the above listed tests shall have to be supplied free of cost for the entire workload during the validity of the contract.</p> <p>15. Five years warranty & 5 years post warranty CMC should be provided.</p> <p>16. On Site training to Doctors/ Technicians/ staff is to be provided.</p>	<p>14. The bidders must quote the prices of other consumables required for the special parameters (apart from the routine parameters mentioned) and these prices will be frozen for 5 years. Any consumable not quoted in this table but essential for performing the above listed tests shall have to be supplied free of cost for the entire workload during the validity of the contract.</p> <p>15. Five years warranty & 5 years post warranty CMC should be provided.</p> <p>16. On Site training to Doctors/ Technicians/ staff is to be provided.</p>
8.	<p>10. Syringe Infusion Pumps</p> <ol style="list-style-type: none"> 1) The syringe pump should be programmable, user friendly, safe to use and should have battery backup and comprehensive alarm system. 2) Must Work on commonly available standard 5ml/10ml/20ml/50ml/60 ml Syringes with accuracy of minimum of +/- 2% or better, with automatic syringe size recognition. 3) US-FDA approved product. 4) Flow rate programmable from 0.1 to 1000 ml/hr or more in steps of 0.1 ml/hr with user selectable flow set rate option. SAVE last infusion rate even when the AC power is switched OFF. 5) Bolus rate should be programmable to 40 to 1000 ml/hr or more with infused volume display and one key press bolus. Reminder audio after every 1 ml delivered. 6) Display of Drug directory of more than 50 drugs, customized and adjustable. 7) Key board locking system for patient safety. 8) Keep Vein Open (KVO) must be available at 0.1 ml or set rate. 9) Selectable Occlusion pressure trigger levels selectable from 300/500/900 mmHg./ atleast 3 selectable levels. 10) Automatic detection of syringe size & proper fixing. Must provide alarm for wrong loading of syringe such as flanges out of slot; disengaged plunger, unsecured barrel etc. 11) Manual pusher with plunger protection guard. 12) Anti bolus system to reduce pressure on sudden release of occlusion. 	<p>10.Syringe Infusion Pumps</p> <ol style="list-style-type: none"> 1) The syringe pump should be programmable, user friendly, safe to use and should have battery backup and comprehensive alarm system. 2) Must Work on commonly available standard 5ml/10ml/20ml/50ml/60 ml Syringes with accuracy of minimum of +/- 2% or better, with automatic syringe size recognition. 3) US-FDA/ European CE/ BIS approved product. 4) Flow rate programmable from 0.1 to 1000 ml/hr or more in steps of 0.1 ml/hr with user selectable flow set rate option. SAVE last infusion rate even when the AC power is switched OFF. 5) Bolus rate should be programmable to 40 to 1000 ml/hr or more with infused volume display and one key press bolus. Reminder audio after every 1 ml delivered. 6) Display of Drug directory of more than 50 drugs, customized and adjustable. 7) Key board locking system for patient safety. 8) Keep Vein Open (KVO) must be available at 0.1 ml or set rate. 9) Selectable Occlusion pressure trigger levels selectable from 300/500/900 mmHg./ atleast 3 selectable levels. 10) Automatic detection of syringe size & proper fixing. Must provide alarm for wrong loading of syringe such as flanges out of slot; disengaged plunger, unsecured barrel etc. 11) Manual pusher with plunger protection guard.

	<p>13) Should have comprehensive ALARM package including: Occlusion limit exceed alarm. Near end of infusion pre-alarm & alarm, volume limit pre-alarm & alarm, KVO rate flow, Low battery pre-alarm and alarm, AC power failure and Drive disengaged alarm.</p> <p>14) Rechargeable Battery having at least 1 hours backup for about 5ml/hr flow rate with 50ml syringes. Larger battery life and indication of residual life will be preferred.</p> <p>15) Mounting device / Docking Station for at least four pumps as per requirement so as to enable to power up to 4 pumps with one power cord when mounted on IV pole.</p> <p>16) The unit shall be capable of stored and operating continuously in ambient temperature of 10 –50deg C and relative humidity of 15-90%</p> <p>17) Power input to be 220-240VAC, 50Hz.</p> <p>18) Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist.</p> <p>The job description of the hospital technician and company service engineer should be clearly spelt out.</p> <p>19) User Manual and service manual in English.</p> <p>20) Should have local service facility. The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.</p> <p>21) List of important spare parts and accessories with their part number and costing.</p> <p>22) Bidder has to give demonstration of the quoted model.</p>	<p>12) Anti bolus system to reduce pressure on sudden release of occlusion.</p> <p>13) Should have comprehensive ALARM package including: Occlusion limit exceed alarm. Near end of infusion pre-alarm & alarm, volume limit pre-alarm & alarm, KVO rate flow, Low battery pre- alarm and alarm, AC power failure and Drive disengaged alarm.</p> <p>14) Rechargeable Battery having at least 4 hours backup for about 5ml/hr flow rate with 50ml syringes. Larger battery life and indication of residual life will be preferred.</p> <p>15) Mounting device for at least four pumps as per requirement so as to enable to power up to 4 pumps with one power cord when mounted on IV pole. (Docking Station deleted).</p> <p>16) The unit shall be capable of stored and operating continuously in ambient temperature of 10 –50deg C and relative humidity of 15-90%</p> <p>17) Power input to be 220-240VAC, 50Hz.</p> <p>18) Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist.</p> <p>The job description of the hospital technician and company service engineer should be clearly spelt out.</p> <p>19) User Manual and service manual in English.</p> <p>20) Should have local service facility. The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.</p> <p>21) List of important spare parts and accessories with their part number and costing.</p> <p>22) Bidder has to give demonstration of the quoted model.</p>
9.	<p>11. Infusion Pumps Bolus: 1200ml/h Flow rate range: 1-1200ml/h Volume limit: 1-9999 ml Accuracy:±5%</p>	<p>11. Infusion Pumps Bolus: 1200ml/h Flow rate range: 1-1200ml/h Volume limit: 1-9999 ml Accuracy:±5%</p>

	<p>KVO flow rate: 1ml/h, keep vein open KVO rate Power supply: AC100-240V, 50/60 Hz, 25VA Water Proof: IP *I Battery: Rechargeable lithium polymer battery, 7.4 V, 1650mAh Electrical safety: compliance with the requirements of IEC 60601-1. Max. Power consumption: 25W Battery recharge: When the pump is connected to the AC power, the battery will automatically recharge About 8-14 hours to recharge fully Can run for more than 5 hours continuously after fully recharged. Fuse Type: 220V 2A*2, 12V 2A*2 Display or information: Flow rate, volume limit, accumulated volume, power indicator light, bed No., air, occlusion, empty. Alarm function: Infusion completion, occlusion, air bubble, low battery, control abnormal, no AC power supply, installation error. Max. size of outer shell: 120*140*190 mm-length* width* height • Max. weight: <2.5 kg • Classification: Type B. • Outer shell material: ABS plastic Operating condition: Environment temperature:+5°C- +40°C, atmosphere • pressure 50-106kPa, related humidity 30%-90% Storage and transport condition: Environment temperature -15°C- +50°C, atmosphere • pressure 50-106kPa, relative humidity 30%-90%. Applicable infusion pipe: All standard infusion pipe use "double dove" to test • EMC: Complies with IEC/EN60601-1-2 and IEC/EN60601-2-24.</p>	<p>KVO flow rate: 1ml/h, keep vein open KVO rate Power supply: AC100-240V, 50/60 Hz, 25VA Water Proof: IP 24 Battery: Rechargeable lithium polymer battery, 7.4 V, 1650mAh Electrical safety: compliance with the requirements of IEC 60601-1. Max. Power consumption: 25W Battery recharge: When the pump is connected to the AC power, the battery will automatically recharge About 8-14 hours to recharge fully Can run for more than 5 hours continuously after fully recharged. Fuse Type: 220V 2A*2, 12V 2A*2 Display or information: Flow rate, volume limit, accumulated volume, power indicator light, bed No., air, occlusion, empty. Alarm function: Infusion completion, occlusion, air bubble, low battery, control abnormal, no AC power supply, installation error. • Max. weight: <2.5 kg • Classification: Type B. • Outer shell material: ABS plastic Operating condition: Environment temperature:+5°C- +40°C, atmosphere • pressure 50-106kPa, related humidity 30%-90% Storage and transport condition: Environment temperature -15°C- +50°C, atmosphere • pressure 50-106kPa, relative humidity 30%-90%. Applicable infusion pipe: All reputed standard infusion pipe to be used• EMC: Complies with IEC/EN60601-1-2 and IEC/EN60601-2-24.</p>												
10.	<p>12. Transcutaneous Bilirubinometers</p> <table border="1"> <tr><td>Light weight: portable unit</td></tr> <tr><td>Multi wavelength spectral reflectance meter</td></tr> <tr><td>Provides non-invasive measurement of total serum bilirubin reported in mg/dL or micromol/L</td></tr> <tr><td>Measurement range 0 to 20 mg/dL (0-340 micromol/L)</td></tr> <tr><td>Light source should be pulse xenon arc lamp</td></tr> <tr><td>Silicon photodiodes detector</td></tr> </table>	Light weight: portable unit	Multi wavelength spectral reflectance meter	Provides non-invasive measurement of total serum bilirubin reported in mg/dL or micromol/L	Measurement range 0 to 20 mg/dL (0-340 micromol/L)	Light source should be pulse xenon arc lamp	Silicon photodiodes detector	<p>Transcutaneous Bilirubinometers</p> <table border="1"> <tr><td>Light weight: portable unit</td></tr> <tr><td>Multi wavelength spectral reflectance meter</td></tr> <tr><td>Provides non-invasive measurement of total serum bilirubin reported in mg/dL or micromol/L</td></tr> <tr><td>Measurement range 0 to 20 mg/dL (0-340 micromol/L)</td></tr> <tr><td>Light source should be pulse xenon arc lamp/ tungsten lamp</td></tr> <tr><td>Photodiodes detector</td></tr> </table>	Light weight: portable unit	Multi wavelength spectral reflectance meter	Provides non-invasive measurement of total serum bilirubin reported in mg/dL or micromol/L	Measurement range 0 to 20 mg/dL (0-340 micromol/L)	Light source should be pulse xenon arc lamp/ tungsten lamp	Photodiodes detector
Light weight: portable unit														
Multi wavelength spectral reflectance meter														
Provides non-invasive measurement of total serum bilirubin reported in mg/dL or micromol/L														
Measurement range 0 to 20 mg/dL (0-340 micromol/L)														
Light source should be pulse xenon arc lamp														
Silicon photodiodes detector														
Light weight: portable unit														
Multi wavelength spectral reflectance meter														
Provides non-invasive measurement of total serum bilirubin reported in mg/dL or micromol/L														
Measurement range 0 to 20 mg/dL (0-340 micromol/L)														
Light source should be pulse xenon arc lamp/ tungsten lamp														
Photodiodes detector														

	<p>Should have a reusable measuring probe which can be cleaned with disinfectant</p> <p>Should have an in-built battery</p> <p>Large easy to read display</p> <p>Should have a charging station</p> <p>Should work with all skin colour</p> <p>Should be European CE or US FDA approved product and the certificate must be submitted</p> <p>The price quoted in the financial bid should include the cost of the equipment along with the cost of the first three thousands measurements of jaundice done with the equipment</p> <p>The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 30-90%</p> <p>The unit shall be capable of operating in ambient temperature of 20-40 deg C and relative humidity of less than 70%</p> <p>Should have local service facility and should have the necessary equipments to carry out preventive maintenance test</p> <p>Onsite physical demonstration and training of the equipment to all the end users with all the requested facilities will be mandatory</p> <p>Should be usable in preterm and term newborns from birth to 10 days of life.Should provide reliable reading irrespective of receiving phototherapy.</p>	<p>Should have a disposable measuring probe (100 nos.)which can be cleaned with disinfectant</p> <p>Should have an in-built battery</p> <p>Large easy to read display</p> <p>Should have a charging station</p> <p>Should work with all skin colour</p> <p>Should be European CE or US FDA or BIS approved product and the certificate must be submitted</p> <p>The price quoted in the financial bid should include the cost of the equipment along with the cost of the first three thousands measurements of jaundice done with the equipment</p> <p>The unit shall be capable of being stored continuously in ambient temperature of 0-50deg C and relative humidity of 30-90%</p> <p>The unit shall be capable of operating in ambient temperature of 20-40 deg C and relative humidity of less than 70%</p> <p>Should have local service facility and should have the necessary equipments to carry out preventive maintenance test</p> <p>Onsite physical demonstration and training of the equipment to all the end users with all the requested facilities will be mandatory</p> <p>Should be usable in preterm (27 weeks to 42 weeks) and term newborns from birth to 20 days of life.Should provide reliable reading irrespective of receiving phototherapy (before, during & after phototherapy).</p>
11.	13. Radiant Warmers	No changes.
12.	<p>14. Anesthesia Work station Machines</p> <p>1. Anaesthesia Workstation is used for delivering anaesthesia agents to the patients during surgery. The complete unit also monitors the vital signs and ventilates the patient from neonatal to adult.</p> <p>2. a) Anaesthesia Workstation complete with Anaesthesia gas delivery system.;Circle absorber system.;Precision vaporiser for halothane, isoflurane and Sevoflurane ;Anaesthesia ventilator. Monitoring system to monitor Anaesthetic gases, ECG, EtCO2, Pulse Oximeter and</p>	<p>Amendment will be uploaded later.</p>

<p>airway pressure, NIBP, IBP (No as required) , rectal/ & skin temperature. b)</p> <p>Essential accessories to make the system complete.</p> <p>2.1 Demonstration of the equipment is a must.</p> <p>3. Technical Specifications</p> <p>3.1 Flow management</p> <ol style="list-style-type: none"> 1. Should be Compact, ergonomic & easy to use 2. Machine should provide electronic gas mixing. 3. Multi-color TFT display of at least 12" size, with virtual flow meters for O₂, N₂O or Air. 4. Dual flow sensing capability at inhalation and exhalation ports. 5. Should have back-up O₂ control which provides an independent fresh gas source and flow meter Control in case of electronic failure. 6. Gas regulators shall be of modular design/ graphic display. 7. One no. yoke each for Oxygen & Nitrous Oxide. Separate Pipeline inlet for Oxygen , Nitrous Oxide and Air. 8. Hypoxic Guard to ensure minimum 25% O₂ across all O₂-N₂O mixtures and Oxygen Failure Warning. 9. Should have integrated EtCO₂ monitor. 10. Should display flow, volume & pressure/volume loops. <p>3.2 Breathing system.</p> <ol style="list-style-type: none"> 2. Latex free fully autoclavable. 3. Flow sensing capability at inhalation and exhalation ports, sensor connections shall be internal to help prevent disconnect. 4. Sensor should not require daily maintenance. 5. Bag to vent switch shall be bi-stable and automatically begins mechanical\ ventilation in the ventilator position. 6. Adjustable pressure limiting valve shall be flow and pressure compensated. <p>3.3 Vaporizers.</p> <ol style="list-style-type: none"> 1. New generation Vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer. 2. Vaporizer should mount to a Selectatec manifold of 2 vaporizers, which allows easy exchange between agents. Temperature, pressure and flow compensated vaporizers and Maintenance free - for 	
---	--

Isoflurane, Halothane, and Sevoflurane.

3.4 Ventilation

1. The workstation should have integrated Anesthesia Ventilator system.
2. Ventilator should have Volume Control and Pressure Controlled and SIMV modes.
3. Ventilator should have a tidal volume compensation capability to adjust for losses due to compression, compliance and leaks; and compensation for fresh gas flow.
4. The workstation should be capable of delivery of low flow anesthesia.
5. Ventilator should be capable of atleast 120-150 L/min peak flow to facilitate rapid movement through physiologic —dead space.
6. Bypass cardiac mode in the Pressure Control mode.
7. Tidal volume: 5ml-1400ml.

3.5 1. Anesthesia Monitoring Specifications: 19” TFT Screen

- a. Monitoring of vital parameters: ECG, NIBP, SPO2 and two Invasive Blood Pressure.
 - b. Twin temperature measurement with skin and rectal probes- Two sets with each monitor
 - c. Automatic identification and measurement of anesthetic agents, EtCO2, O2 and N2O and MAC value. FiO2 measurement. To be available either on M/c or monitor. It should have a paramagnetic sensor with O2 Sensor.
 - d. Depth of Anesthesia Monitoring module - one per monitor with 50 sensors with each monitor
 - e. Neuromuscular Transmission Monitoring with all accessories. One set with each monitor.
 - f. Cardiac Output measurement facility by thermo dilution technology with all accessories- one set for three monitors.
 - g. 24hrs of graphical and numerical trending.
 - h. Should have Hemodynamic, Oxygenation and Ventilation calculation package. Should also have Ventilation Data available on monitor.
 - i. Should include inbuilt Anaesthesia record keeping software facility in all OT monitor to document anesthesia event using standardized menu based entries.
1. Monitor should be USFDA approved
 2. Display of Ventilator:
 - a. Tidal volume (VT).

<p>b. Inspiratory/expiratory ratio (I:E) c. Inspiratory pressure (Pinspired) d. Pressure limit (Plimit). e. Positive End Expiratory Pressure (PEEP). 3.6 Centralised Monitoring and Networking: Web Browsing feature for browsing near real time waveforms and graphical & numerical trend up to 24hrs remotely through telephone dial in facility. Compatible with HIS system of the hospital. 3.7 Automatic Recording System. 4. System Configuration Accessories, spares and consumables. 4.1 Anaesthesia Gas Delivery system -01. 4.2 Circle absorber -01. 4.3 Ventilator -01. 4.4 Monitor -01. 4.5 Vaporiser Halothane -01. 4.6 Vaporiser Sevoflurane -01. 4.7 Vaporiser Isoflurane -01 & Vaporizer Desflurane -01. 4.8 Adult and Paediatric autoclavable silicone breathing circuits -02 ea. 4.9 Reusable IBP Transducer -04. Reusable IBP cables -04. Disposable Transducers - 100. 4.10 Disposable domes-100. 4.11 Temp probe Skin reusable- 02. 4.12 Temp probe Rectal Reusable-02. 4.13 Accessories Anesthetic gases-01 set. 4.14 Depth of Anesthesia Sensors-100 adult & 100 pediatric. 4.15 Accessories for Cardiac Output module- 01 set. 4.16 Accessories for neuromuscular transmission monitor- 01 set. 4.17 Standard accessories to make all parameters working- 01 set. 4.18 Disposable Adult & Paediatric circuits- 100 ea. 4.19 HME filters.- 100. 4.20 Vital Parametrer Accessories-01 Set. 4.21 Nellcor/Masimo SpO2, Adult, Ped., Neonatal Sensor-2each. 4.22 NIBP/Adult, Ped., Neonatal Cuff – 2 each. 5. Environmental factors. 5.1 The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%.</p>	
---	--

<p>5.2 The unit shall be capable of being stored continuously in ambient temperature of 0 -50deg C and relative humidity of 15-90%.</p> <p>5.3 Shall meet IEC-60601-1-2:2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.</p> <p>5.4 Safe disposal system of waste anaesthetic gases should be either in place or should be recommended along with the bid if not available. Supplier will be held responsible if this is not ensured at the time of installation.</p> <p>6. Power Supply.</p> <p>6.1 Power input to be 220-240VAC, 50Hz,/440 V 3 Phase as appropriate fitted with Indian plug.</p> <p>6.2 Resettable over current breaker shall be fitted for protection.</p> <p>6.3 Suitable Servo controlled Stabilizer/CVT.</p> <p>6.4 UPS of suitable rating shall be supplied for minimum 1 hour backup for the entire system.</p> <p>7. Standards, Safety and Training.</p> <p>7.1 Should be FDA or CE approved product.</p> <p>7.2 Electrical safety conforms to standards for electrical safety IEC-60601 /IS-13450.</p> <p>7.3 Manufacturer should be ISO certified for quality standards.</p> <p>7.4 Certified to be compliant with IEC 60601-2-13-Medical Electrical equipment part 213: Particular requirements for the safety of Anaesthesia Workstations.</p> <p>7.5 Should have local service facility .The service provider should have the necessary equipment recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.</p> <p>7.6 All imported components like anaesthesia machine, monitor and ventilator should be from one manufacturer/principal.</p> <p>7.7 Back to back warranty to be taken by the supplier from the principal to supply spares for a minimum period 10 years.</p> <p>7.8 Comprehensive warranty for 2 years and provision of CMC for next 5years.</p> <p>8. Documentation.</p> <p>8.1 User Manual in English.</p>	
--	--

<p>8.2 Service manual in English.</p> <p>8.3 List of important spare parts and accessories with their part number and costing.</p> <p>8.4 Certificate of Calibration and inspection from the factory.</p> <p>8.5 Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out.</p> <p>8.6 List of Equipment available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.</p> <p>8.7 Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/Para number of original catalogue/data sheet. Any point ,if not substantiated with authenticated catalogue/manual, will not be considered.</p> <p>8.8 Must submit user list and performance report within last 5 years from major hospitals.</p>	
---	--

13.	15. HIGH DEFINITION LAPROSCOPIC FULL SET WITH ACCESSORIES		15. HIGH DEFINITION LAPROSCOPIC FULL SET WITH ACCESSORIES	
	Sr. No.	Specification	Sr. No.	Specification
		The system should be truly Digital High definition endoscopic system. The system should have the maximum Resolution of 1920 X 1080 pixels, progressive scan and the consistent use of 16: 9 formats for Input & Output to guarantee genuine HDTV.		The system should be truly Digital High definition endoscopic system. The system should have the maximum Resolution of 1920 X 1080 pixels, progressive scan and the consistent use of 16: 9 formats for Input & Output to guarantee genuine HDTV.
	A.	Full High Definition Systems will consist of:	A.	Full High Definition Systems will consist of:
	1	Full HD Video Image Processor -1no	1	Full HD Video Image Processor -1no
	2	3 Chip CCD / 3 Chip CMOS Full HD Camera Head -1no (autoclavable preferred). At least should be immercible in disinfectant solution. It should have optical zoom lens technology	2	3 Chip CCD / 3 Chip CMOS Full HD Camera Head - 1no. should be immercible in disinfectant solution. It should have optical zoom lens technology
	3	Powerful 300 W LED/ 300W Xenon Light Source for better illumination – 1no	3	Powerful 300 W LED/ 300W Xenon Light Source for better illumination – 1no
	4	26” Full HD Medical Grade Monitor-1no	4	26” Full HD Medical Grade Monitor-1no
	5	High definition Telescope preferably Autoclavable- 1no - each of 10mm 0 and 30 degree, 5mm 0 and 30 degree	5	High definition Telescope preferably Autoclavable- 1no - each of 10mm 0 and 30 degree, 5mm 0 and 30 degree
	6	Light Guide Cable-1no	6	Light Guide Cable-1no
7	High Flow Insufflator- 40 Liters and above -1no	7	High Flow Insufflator- 40 Liters and above -1no	

8	Trolley /Video Cart -1no	8	Trolley /Video Cart -1no
9	Suction-Irrigation unit - 1no	9	Suction-Irrigation unit - 1no
10	Carbon Dioxide Cylinder- 2no	10	Carbon Dioxide Cylinder- 2no
11	Hand Instruments & Other Accessories	11	Hand Instruments & Other Accessories
12	Accessories, spares and consumables	12	Accessories, spares and consumables
1)	Full HD Video Image Processor: Should have following specification:	1)	Full HD Video Image Processor: Should have following specification:
*	A full high definition processor should have resolution of 1920x1080 pixels with progressive scan technology in camera system.	*	A full high definition processor should have resolution of 1920x1080 pixels with progressive scan technology in camera system.
*	Should have special filter light for observation of capillary vessels and fine patterns in the superficial layer of mucosa for early detection of lesions, Or or ICG compatible.	*	Should have special filter light for observation of capillary vessels and fine patterns in the superficial layer of mucosa for early detection of lesions and ICG compatible.
*	Should have a USB slot so as to take still pictures of Endoscope images. It should have 2 digital output ie DVI/HD MI/HS-SDI OR it should have external recorder.	*	Should have a USB slot so as to take still pictures of Endoscope images. It should have 2 digital output ie DVI/HD MI/HS-SDI OR it should have external recorder.
*	Should have provision for adjusting brightness automatically during to & fro of the scope movements.	*	Should have provision for adjusting brightness automatically during to & fro of the scope movements.
2)	3 Chip CCD/CMOS Full HD Camera Head: Should have following specification:	2)	3 Chip CCD/CMOS Full HD Camera Head: Should have following specification:
*	The full HD camera head should be of Eye piece type & have resolution of 1920x1080 pixels.	*	The full HD camera head should be of Eye piece type & have resolution of 1920x1080 pixels.

*	Should have Digital / Manual focus function which can be varied seamlessly from coarse to fine image.	*	Should have Digital / Manual focus function which can be varied seamlessly from coarse to fine image.
*	Camera Head & coupler should be one piece integrated/or with C Mount HD coupler. Separable C Mount coupler along with the camera head is acceptable.	*	Camera Head & coupler should be one piece integrated/or with C Mount HD coupler. Separable C Mount coupler along with the camera head is acceptable.
*	The camera head should /must have integrated (one piece) inbuilt zoom and focus lens/rings to make it fully soak able for sterilization/ disinfection. C Mount coupler along with the camera head is acceptable.	*	The camera head should /must have integrated (one piece) inbuilt zoom and focus lens/rings to make it fully soak able for sterilization/ disinfection. C Mount coupler along with the camera head is acceptable.
3	Powerful 300W LED Or 300W Xenon Light Source: Should have following specification:	3	Powerful 300W LED Or 300W Xenon Light Source: Should have following specification:
*	A Powerful 300W LED Or 300W Xenon Light Source	*	A Powerful 300W LED Or 300W Xenon Light Source.
*	Automatically adjust light intensity to achieve ideal illumination.	*	Automatically adjust light intensity to achieve ideal illumination.
*	Should have special filter light for observation of capillary vessels and fine patterns in the superficial layer of mucosa	*	Deleted.

	for early detection of lesions, or ICG based function should be available.		
*	Colour temperature of at least 5800 K	*	Colour temperature of at least 5800 K
*	Manual and automatic adjustment of light intensity	*	Manual and automatic adjustment of light intensity
*	Brightness control to be regulated manually or automatically via the output signal of a video camera	*	Brightness control to be regulated manually or automatically via the output signal of a video camera
*	Lamp life 500 hrs or more for Xenon bulb	*	Lamp life 500 hrs or more for Xenon bulb/ Min. 2,500 hours for LED lamp.
*	Electrical specifications	*	Electrical specifications
a.	Power supply voltage: 100-240 VAC	a.	Power supply voltage: 100-240 VAC
b.	Power frequency: 50-60Hz	b.	Power frequency: 50-60Hz
*	The light source should comply with IEC 60601-1, belong to Class II a with CE mark	*	The light source should comply with IEC 60601-1, belong to Class II a with European CE/ BIS mark
4)	26" Full HD Medical Grade Monitor: Should have following specification:	4)	26" Full HD Medical Grade Monitor: Should have following specification:
*	26 inch full true HD Medical Grade Monitor with LED backlit with high resolution 1920x1080	*	26 inch full true HD Medical Grade Monitor with LED backlit with high resolution 1920x1080
*	Aspect ratio 16:9	*	Aspect ratio 16:9
*	Should have multi -modality display compatibility, including Picture-in-Picture for various image size combinations.	*	Should have multi -modality display compatibility, including Picture-in-Picture for various image size combinations.
*	Should have eco -friendly consumption by low power consumption, various powers saving mode, lightweight and thin body.	*	Should have eco -friendly consumption by low power consumption, various powers saving mode, lightweight and thin body.
*	Should have advance Image Multiplier Enhancer to enhance image quality.	*	Should have advance Image Multiplier Enhancer to enhance image quality.

*	System should be dual channel digital input and output DVI/ HDMI	*	System should be dual channel digital input and output DVI/ HDMI
5)	Telescope: Should have following specifications:	5)	Telescope: Should have following specifications:
*	10mm, 0 &30 degree – 1No each (approx. 30-35 cm long)	*	10mm, 0 &30 degree – 1No each (approx. 30-35 cm long)
*	5mm, 0 &30 degree – 1No each (approx. 27-30 cm long)	*	5mm, 0 &30 degree – 1No each (approx. 27-30 cm long)
*	Completely distortion free.	*	Completely distortion free.
*	HD Optics for better contrast & color reproduction.	*	HD Optics for better contrast & color reproduction.
*	Large field of view and depth of focus.	*	Large field of view and depth of focus.
*	Fully Autoclavable type preferably.	*	Fully Autoclavable type preferably.
*	Color coded.	*	Color coded.
	Telescope optic should be compatible to FULL High Definition camera for better contrast & color reproduction		Telescope optic should be compatible to FULL High Definition camera for better contrast & color reproduction
6)	Light Guide Cable	6)	Light Guide Cable
*	It should have High resistance protection against mechanical and thermal stress	*	It should have High resistance protection against mechanical and thermal stress
*	It should have small bending radius for comfortable use	*	It should have small bending radius for comfortable use
*	It should be 3 Meter or more in Length	*	It should be 3 Meter or more in Length
*	Should be European CE/USA-FDA compliant.	*	Should be European CE/USA-FDA/ BIS compliant.
7)	High Flow CO2 Gas Insufflator unit – 40L/per minute or more	7)	High Flow CO2 Gas Insufflator unit – 40L/per minute or more
*	Should be digital, microprocessor controlled & automatic type	*	Should be digital, microprocessor controlled & automatic type
*	Large digital display on front panel for status checking	*	Large digital display on front panel for status checking
*	Powerful Insufflation flow rate of 40 L/Min or more required.	*	Powerful Insufflation flow rate of 40 L/Min or more required.
*	Automatic feedback control for any malfunction.	*	Automatic feedback control for any malfunction.

8)	Trolley (video cart) should be supplied for the system	8)	Trolley (video cart) should be supplied for the system
*	Should be from original equipment manufacturer (OEN) and should be imported	*	Should be from original equipment manufacturer (OEN) and should be imported
*	Made of Stainless Steel/ Epoxy coated metal with minimum 4 shelves.	*	Made of Stainless Steel/ Epoxy coated metal with minimum 4 shelves.
*	Portable on 4 antistatic dual castors, 2 with locking brakes	*	Portable on 4 antistatic dual castors, 2 with locking brakes
*	Should have minimum 4 shelves	*	Should have minimum 4 shelves
	Should have storage for CO2 gas cylinder holder or portable separate holder.		Should have storage for CO2 gas cylinder holder or portable separate holder.
*	Should be from OEM	*	Should be from OEM
*	Trolley should be able to hold monitor with tilt and swivel accordingly.	*	Trolley should be able to hold monitor with tilt and swivel accordingly.
*	Should have anti- static strong wheels	*	Should have anti- static strong wheels
9)	SUCTION-IRRIGATION UNIT :	9)	SUCTION-IRRIGATION UNIT :
	Controlled suction and irrigation unit with flow rate of at least 1L/min.		Controlled suction and irrigation unit with flow rate of at least 1L/min.
	Irrigation pressure control between 0-400 mm Hg, preferably by roller pump /compact pump.		Irrigation pressure control between 0-400 mm Hg, preferably by roller pump /compact pump.
	Control from control panel and /or foot pedal		Control from control panel and /or foot pedal
	Accessories should include silicone tubing set with reusable pressure domes, bacterial filter and suction bottles with cap (minimum 2.5 ltrs.)		Accessories should include silicone tubing set with reusable pressure domes, bacterial filter and suction bottles with cap (minimum 2.5 ltrs.)
10)	CARBON DIOXIDE CYLINDER - TWO	10)	CARBON DIOXIDE CYLINDER - TWO
	Two large size cylinders with required regulators and connecting pipe to the insufflators with pressure gauze. Minimum B type 20Kg capacity with separate mobile stand for it. Indian make is acceptable.		Two large size cylinders with required regulators and connecting pipe to the insufflators with pressure gauze. Minimum B type 20Kg capacity with separate mobile stand for it. Indian make is acceptable.

			11)	HAND INSTRUMENTS should be made of plastic/metallic handle
			S.No.	Instruments
				Specification
	1	Reusable Veress Pneumoperitoneum Needle	1	Reusable Veress Pneumoperitoneum Needle
		Needle		Blunt stylet Luer lock - 15 cm
	2	Reusable Trocar :- 5mm	2	Reusable Trocar :- 5mm
		Multifunctional valve, insufflations stopcock and smooth sleeves, pyramidal tip with safety outlet hole near tip, length (10.5cm), autoclavable length (10.5cm), autoclavable		Multifunctional valve, insufflations stopcock and smooth sleeves, pyramidal tip with safety outlet hole near tip, length (10.5cm), autoclavable length (10.5cm), autoclavable
	3	Reusable Trocar :- 10/11 mm	3	Reusable Trocar :- 10/11 mm
		Multifunctional valve/flap valve, insufflations stopcock and smooth sleeves, pyramidal tip, length (10.5cm), autoclavable		Multifunctional valve/flap valve, insufflations stopcock and smooth sleeves, pyramidal tip, length (10.5cm), autoclavable
			4	Reusable Trocar :- 5mm
				Multifunctional valve, insufflations stopcock and smooth sleeves, pyramidal tip with safety outlet hole near tip, length (10.5cm), autoclavable length (10.5cm), autoclavable

	4	Reusable Trocar :- 5mm	Multifunctional valve, insufflations stopcock and smooth sleeves, pyramidal tip with safety outlet hole near tip, length (10.5cm), autoclavable length (10.5cm), autoclavable			
	5	Reusable Trocar :- 13.5mm	Multifunctional valve, insufflations stopcock and smooth sleeves, pyramidal tip with safety outlet hole near tip, length (10.5cm), autoclavable, size 13 to 14mm	5	Reusable Trocar :- 13.5mm	Multifunctional valve, insufflations stopcock and smooth sleeves, pyramidal tip with safety outlet hole near tip, length (10.5cm), autoclavable, size 13 to 14 mm
	6	Two ways Suction and Irrigation Cannula	a. Size 5mm, length 32- 38cm, used with suction and irrigation handle and handpiece with stopcock b. Size 10 mm, length 32- 38 cm	6	Two ways Suction and Irrigation Cannula	a. Size 5mm, length 32- 38cm, used with suction and irrigation handle and handpiece with stopcock b. Size 10 mm, length 32- 38 cm
	7	Tissue Grasping forceps – toothed 2x3 teeth	Double action jaws of 18-24 mm, rotating with connector pin for unipolar coagulation, size 5mm, length 33- 36cm, dismantling	7	Tissue Grasping forceps – toothed 2x3 teeth	Double action jaws of 18-24 mm, rotating with connector pin for unipolar coagulation, size 5mm, length 33- 36cm, dismantling

		facility, plastic handles with ratchets, autoclavable			facility, plastic handles with ratchets, autoclavable
8	Tissue Grasping forceps – toothed 2x3 Teeth	Single action jaws of 28-35 mm, rotating with connector pin for unipolar coagulation, size 5mm, length 33- 36cm, dismantling facility, plastic handles with ratchets, autoclavable	8	Tissue Grasping forceps – toothed 2x3 Teeth	Single action jaws of 28-35 mm, rotating with connector pin for unipolar coagulation, size 5mm, length 33- 36cm, dismantling facility, plastic handles with ratchets, autoclavable
9	Maryland forceps	Double action jaws with size 14-18 mm, rotating with connector pin for unipolar coagulation, size 5mm, length 33- 36cm, dismantling facility, plastic handles without ratchets, autoclavable	9	Maryland forceps	Double action jaws with size 14-18 mm, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, plastic handles without ratchets, autoclavable
10	Grasping forceps	Double action jaws, spoon shaped with multiple teeth of jaw length 18-30 mm and rotating with connector pin for unipolar coagulation, size 5mm, length 33- 36cm, dismantling facility, plastic handles without ratchets, autoclavable 01	10	Grasping forceps	Double action jaws, spoon shaped with multiple teeth of jaw length 18-30 mm and rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, plastic handles without ratchets, autoclavable 01
11	Dissecting and Grasping forceps – Alligator type	Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33- 36cm, dismantling facility, plastic handles with ratchets, autoclavable	11	Dissecting and Grasping forceps – Alligator type	Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, plastic handles with ratchets, autoclavable

12	Dissecting and Grasping forceps	Single action jaws, of 16-20 mm, rotating	12	Dissecting and Grasping forceps	Single action jaws, of 16-20 mm, rotating	
		with connector pin for unipolar coagulation,			with connector pin for unipolar coagulation,	
		size 5mm, length 33- 36cm, dismantling facility, plastic handles without ratchets, autoclavable			size 5mm, length 33- 36cm, dismantling facility, plastic handles without ratchets, autoclavable	
	13	Grasping forceps Atraumatic – Reddick Olsen type	Double action jaws, with fine serrations on	13	Grasping forceps Atraumatic – Reddick Olsen type	Double action jaws, with fine serrations on
			jaw length 12-18 mm and rotating with			jaw length 12-18 mm and rotating with
connector pin for unipolar coagulation, size 5mm, length 33- 36cm, dismantling facility,			connector pin for unipolar coagulation, size 5mm, length 33- 36cm, dismantling facility,			
plastic handles without ratchets, autoclavable			plastic handles without ratchets, autoclavable			
14	Grasping forceps – Fenestrated	Single action straight jaw of 24-26mm length with fine serrations and fenestration, rotating, size 5mm, length 33-36cm, dismantling facility, plastic handles with ratchet, autoclavable	14	Grasping forceps – Fenestrated	Single action straight jaw of 24-26mm length with fine serrations and fenestration, rotating, size 5mm, length 33-36cm, dismantling facility, plastic handles with ratchet, autoclavable	
15	Grasping forceps – Fenestrated	Single action curved jaws of 35-40mm length with fine serrations and fenestration, rotating, size 5mm, length 43-46cm, dismantling facility,	15	Grasping forceps – Fenestrated	Single action curved jaws of 35-40mm length with fine serrations and fenestration, rotating, size 5mm, length 43-46cm, dismantling facility,	
		plastic handles with ratchet, autoclavable			plastic handles with ratchet, autoclavable	
16	Babcock Grasping forceps- (5 mm)	Double action jaws, atraumatic fenestrated,	16	Babcock Grasping forceps- (5 mm)	Double action jaws, atraumatic fenestrated,	
					rotating, size 5mm, length 33-36cm, dismantling facility, plastic	

		rotating, size 5mm, length 33-36cm, dismantling facility, plastic handles with ratchet, autoclavable			handles with ratchet, autoclavable
17	Babcock Grasping forceps- (10 mm)	Double action robust jaws with large atraumatic gripping surface, rotating, size 10mm, length 33-36cm, dismantling facility, plastic handles with ratchet, autoclavable	17	Babcock Grasping forceps- (10 mm)	Double action robust jaws with large atraumatic gripping surface, rotating, size 10mm, length 33-36cm, dismantling facility, plastic handles with ratchet, autoclavable
18	Dissecting and Grasping Forceps	Single action, atraumatic, fenestrated, curved jaws of length 25- 30mm, rotating, size 5mm, length 33-36cm, dismantling type, plastic handles with ratchet, autoclavable	18	Dissecting and Grasping Forceps	Single action, atraumatic, fenestrated, curved jaws of length 25- 30mm, rotating, size 5mm, length 33-36cm, dismantling type, plastic handles with ratchet, autoclavable
19	Dissecting Forceps- Right Angled	Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, plastic handles without ratchet, autoclavable	19	Dissecting Forceps- Right Angled	Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, plastic handles without ratchet, autoclavable
20	Fan shaped retractor	Rotating with 4-5 blades, size 5mm, length 33-36cm, dismantling facility. Other makes European CE also acceptable including Indian	20	Fan shaped retractor	Rotating with 4-5 blades, size 5mm, length 33-36cm, dismantling facility. Other makes European CE also acceptable
21	Hook Scissors	Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, autoclavable	21	Hook Scissors	Double action jaws, rotating with connector pin for unipolar coagulation, size 5mm, length 33-36cm, dismantling facility, autoclavable
			22	Rotating Metzenbaum Scissors	a. Double action jaws of length 14- 16mm,

	22	Rotating Metzenbaum Scissors	a. Double action jaws of length 14- 16mm,			rotating with connector pin for unipolar coagulation, size 5mm, length 33- 36cm,		rotating with connector pin for unipolar coagulation, size 5mm, length 33- 36cm,
			dismantling facility, autoclavable- Insert of Metzenbaum scissors			dismantling facility, autoclavableb b. Insert of Metzenbaum scissors		
	23	Bipolar coagulating forceps	Wide jaws for dissection, grasping large vessels, size 5mm, length 33-36cm fenestrated. Jaws with robust hinge and 360 degree rotational, ring handles, can be completely disassembled and acleaning port, autoclavable			23	Bipolar coagulating forceps	Wide jaws for dissection, grasping large vessels, size 5mm, length 33-36cm fenestrated. Jaws with robust hinge and 360 degree rotational, ring handles, can be completely disassembled and acleaning port, autoclavable
	24	Spoon Forceps	10 mm size, without ratchet			24	Spoon Forceps	10 mm size, without ratchet
	25	Reusable Hem-o-lock clip applicator	Reusable Hem-o-lock clip applicator - 10 mm size. Other makes European CE/FDA also acceptable			25	Reusable Hem-o-lock clip applicator	Reusable Hem-o-lock clip applicator - 10 mm size. Other makes European CE/FDA/ BIS also acceptable
	26	Bipolar coagulating forceps (Only Insert)	Maryland type jaw of 18-20 mm length, and 34-36cm long to fit into the other part of No. 23, autoclavable			26	Bipolar coagulating forceps (Only Insert)	Maryland type jaw of 18-20 mm length, and 34-36cm long to fit into the other part of No. 23, autoclavable
	27	Needle Aspirator	Size 5mm, length 30-36 cm, Needle diameter of 1.5-2mm			27	Needle Aspirator	Size 5mm, length 30-36 cm, Needle diameter of 1.5-2mm

	28	Needle holder (Disengageable, coaxial type)	Size 5mm, tungsten carbide tip, straight handle with ratchet, single moving with curved tip to left, length 33-36cm. Other makes European CE/US FDA also acceptable		28	Needle holder (Disengageable, coaxial type)	Size 5mm, tungsten carbide tip, straight handle with ratchet, single moving with curved tip to left, length 33-36cm. Other makes European CE/US FDA/BIS also acceptable
	29	Needle holder insert (straight type)	Size 5mm, tungsten carbide tip, single moving straight jaws, length 33-36cm.		29	Needle holder insert (straight type)	Size 5mm, tungsten carbide tip, single moving straight jaws, length 33-36cm.
	30	Extracorporeal knot pushers	Closed Eye type, length 28-32cm, size 3mm		30	Extracorporeal knot pushers	Closed Eye type, length 28-32cm, size 3mm
	31	Endoloop applicator	To fit into trocar size of 6 mm		31	Endoloop applicator	To fit into trocar size of 6 mm
	32	Clip Applicator – Medium Large	Rotatable, provision for locking the shaft conveniently, 10mm, compatible with clip LT 300		32	Clip Applicator – Medium Large	Rotatable, provision for locking the shaft conveniently, 10mm, compatible with clip LT 300
	33	Clip Applicator - Large	Rotatable, provision for locking the shaft conveniently, 10mm, compatible with clip LT 400		33	Clip Applicator - Large	Rotatable, provision for locking the shaft conveniently, 10mm, compatible with clip LT 400. Other makes European CE/USFDA/ BIS also acceptable.
	34	Hassan cone	Adaptable to 10mm trocar		34	Hassan cone	Adaptable to 10mm trocar
	35	Reduction Sleeves /Extractors	From 10/ 11 mm to 5mm, metallic Other makes European CE/FDA also acceptable		35	Reduction Sleeves /Extractors	From 10/ 11 mm to 5mm, metallic Other makes European CE/FDA/BIS also acceptable
	36	Reducers	From 10/ 11 mm to 5mm		36	Reducers	From 10/ 11 mm to 5mm

37	L - Hook	Size 5mm, length 33-36cm with pin for cautery	37	L - Hook	Size 5mm, length 33-36cm with pin for cautery
38	J - Hook	Size 5mm, length 33-36cm	38	J - Hook	Size 5mm, length 33-36cm
39	Spatula	Size 5mm, length 33-36cm with pin for cautery	39	Spatula	Size 5mm, length 33-36cm with pin for cautery
40	Fascia closure instrument	Size 2.8mm, length 17cm with single action jaw Other makes European CE/FDA also acceptable	40	Fascia closure instrument	Size 2.8mm, length 17cm with single action jaw Other makes European CE/FDA/BIS also acceptable
41	High Frequency Cord	For 5mm & 10mm hand instruments with Monopolar Electrodes	41	High Frequency Cord	For 5mm & 10mm hand instruments with Monopolar Electrodes
42	Washers	For 5 & 10 mm cannula and reducers	42	Washers	For 5 & 10 mm cannula and reducers
43	Fibreoptic Light cables	With straight connectors of 4.8mm diameter and 250cm long	43	Fibreoptic Light cables	With straight connectors of 4.8mm diameter and 250cm long
44	Fibreoptic Light cables	With straight connectors of 4.8mm diameter and 300cm long	44	Fibreoptic Light cables	With straight connectors of 4.8mm diameter and 300cm long
45	Light Adaptor	Angled 90 degree, diameter 4.8mm, free rotatable, to connect with standard telescopes	45	Light Adaptor	Angled 90 degree, diameter 4.8mm, free rotatable, to connect with standard telescopes
46	Container systems: Metal & Plastic	For sterilization and storage of telescopes, hand instruments and other accessories of different sizes. Indian/European CE & FDA also acceptable	46	Container systems: Metal & Plastic	For sterilization and storage of telescopes, hand instruments and other accessories of different sizes. Indian/European CE & FDA also acceptable
47	Bipolar HF connecting cable		47	Bipolar HF connecting cable	
49	Hydatid suction cannula	Indian makes also acceptable	49	Hydatid suction cannula	Indian makes also acceptable

50	Cleaning Brush	Length 35cm, 0.0-7mm Indian /Other makes also acceptable		50	Cleaning Brush Length 35cm, 0.0-7mm Indian /Other makes also acceptable
51	Cleaning Brush	Length 35cm, 0.0-2.5mm		51	Cleaning Brush Length 35cm, 0.0-2.5mm
52	Cleaning Brush	Length 50cm, 0.0-11mm		52	Cleaning Brush Length 50cm, 0.0-11mm
53	Cleaning Brush	Length 50cm, 0.0-7mm ,		53	Cleaning Brush Length 50cm, 0.0-7mm ,
54	Oil dropper	No 38 ,		54	Oil dropper No 38 ,
55	Silicon oil for instruments	Bottle of 50ml		55	Silicon oil for instruments Bottle of 50ml
56	Special lubricant for stopcocks			56	Special lubricant for stopcocks
57	Duraglit for polishing metal sheaths and instruments			57	Duraglit for polishing metal sheaths and instruments
58	Formalin chamber	Made of Virgin acrylic 4.5mm thickness, size 26" x 8" x 8" (LxBxH) with three tray for sterilizing lap. Set		58	Formalin chamber Made of Virgin acrylic 4.5mm thickness, size 26" x 8" x 8" (LxBxH) with three tray for sterilizing lap. Set

		Indian /Other makes also acceptable			Indian /Other makes also acceptable
59	12(a) System Configuration Accessories, spares and consumables		59	12(a) System Configuration Accessories, spares and consumables	
	System as specified. But all the items should be of the same manufacturer of International repute only. All electronic devices should have CF protection. They should all be US FDA/ ECE approved unless otherwise specified			System as specified. But all the items should be of the same manufacturer of International repute only. All electronic devices should have CF protection. They should all be US FDA/ ECE/ BIS approved unless otherwise specified	
	ACCESSORIES:- All possible accessories of the equipment should be quoted. The specific accessory and its quantity will be decided on the basis of actual requirement			ACCESSORIES:- All possible accessories of the equipment should be quoted. The specific accessory and its quantity will be decided on the basis of actual requirement	
	The system should be capable of accepting standard accessories of major international brands, which should be specified and for which suitable adaptor, if required, is to be provided			The system should be capable of accepting standard accessories of major international brands, which should be specified and for which suitable adaptor, if required, is to be provided	
	The codes and rates of all relevant individual accessories should be quoted separately with clear mention of period of validity of rates			The codes and rates of all relevant individual accessories should be quoted separately with clear mention of period of validity of rates	
	12(b) Environmental factors			12(b) Environmental factors	
	The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%			The unit shall be capable of being stored continuously in ambient temperature of 0-50 deg C and relative humidity of 15-90%	
	The unit shall be capable of operating continuously in ambient temperature of 10-40 deg C and relative humidity of 15-90%			The unit shall be capable of operating continuously in ambient temperature of 10-40 deg C and relative humidity of 15-90%	

	12(c) Power Supply		12(c) Power Supply
	Power input to be 220-240VAC, 50Hz fitted with Indian power-plug		Power input to be 220-240VAC, 50Hz fitted with Indian power-plug
	Electronic Voltage corrector/stabilizer of appropriate ratings for power		Electronic Voltage corrector/stabilizer of appropriate ratings for power
	supply to the whole set meeting BIS standards/specifications. (Input 160-260 V and output 220-240 V and 50Hz)		supply to the whole set meeting BIS standards/specifications. (Input 160-260 V and output 220-240 V and 50Hz)
	UPS of adequate rating 2KVA with 60 minute backup for power supply to the system.		UPS of adequate rating 2KVA with 60 minute backup for power supply to the system.
	12(d) Standard & Safety		12(d) Standard & Safety
	Should be FDA, CE, UL or BIS approved product		Should be FDA, CE, UL or BIS approved product
	Manufacturer and Supplier should have ISO certification for quality standards.		Manufacturer and Supplier should have ISO certification for quality standards.
	Electrical safety conforms to standards for electrical safety IEC 60601-1 General Requirements (or equivalent BIS Standard)		Electrical safety conforms to standards for electrical safety IEC 60601-1 General Requirements (or equivalent BIS Standard)
	Shall meet internationally recognized standard for Electro Magnetic Compatibility (EMC) for electro medical equipment: IEC-60601-1-2: latest edition or Equivalent BIS) or should comply with 89/366/EEC; EMC- directive as amended		Shall meet internationally recognized standard for Electro Magnetic Compatibility (EMC) for electro medical equipment: IEC-60601-1-2: latest edition or Equivalent BIS) or should comply with 89/366/EEC; EMC- directive as amended
	Certified to be compliant with IEC 60601- 2-2 Medical electrical equipment part 2-2: particular requirements for the safety of equipment mentioned above – wherever applicable		Certified to be compliant with IEC 60601- 2-2 Medical electrical equipment part 2-2: particular requirements for the safety of equipment mentioned above – wherever applicable
	12(e) Training		12(e) Training
	Comprehensive training for staff of user department and support services till familiarity with the system for at least four weeks		Comprehensive training for staff of user department and support services till familiarity with the system for at least four weeks
	12(f) Warranty & Service		12(f) Warranty & Service

	<p>Comprehensive warranty for 5 years on main laparoscopic system and 5 years Comprehensive Maintenance service after warranty. The cost of</p> <p>CMC must be quoted in the price bid. Hand instruments and accessories</p> <p>should be quoted with atleast 1 year warranty. The price of inserts,</p> <p>grasper, jaws and handles should be freezed for four year after the</p> <p>standard warranty of 1 year.</p>		<p>Comprehensive warranty for 5 years on main laparoscopic system and 5 years Comprehensive Maintenance service after warranty. The cost of</p> <p>CMC must be quoted in the price bid. Hand instruments and accessories</p> <p>should be quoted with atleast 5 years warranty. The price of inserts,</p> <p>grasper, jaws and handles should be freezed for four year after the</p> <p>standard warranty of 1 year.</p>
	<p>Percentage of up time guarantee of the equipment during warranty and</p> <p>CMC period for which commitment is to be given must be specified.</p>		<p>Percentage of up time guarantee of the equipment during warranty and</p> <p>CMC period for which commitment is to be given must be specified.</p>
	<p>Principal manufacturer must have registered service centre in India.</p> <p>After sales service must be provided in the city of installation. In</p> <p>situations requiring service/repair of the unit outside the city of</p> <p>Installation, the expenditure on account of this will have to be borne by</p> <p>the supplier.</p>		<p>Principal manufacturer must have registered service centre in India.</p> <p>After sales service must be provided in the city of installation. In</p> <p>situations requiring service/repair of the unit outside the city of</p> <p>Installation, the expenditure on account of this will have to be borne by</p> <p>the supplier.</p>
	<p>12(g) Documentation</p>		<p>12(g) Documentation</p>
	<p>Product Literature in original along with that of accessories and</p> <p>indigenous components if any photocopies /computer generated copies</p> <p>are not acceptable</p>		<p>Product Literature in original along with that of accessories and</p> <p>indigenous components if any photocopies /computer generated copies</p> <p>are not acceptable</p>
	<p>Statement of compliance with tender specifications with clear and</p> <p>unambiguous links to relevant portions of product literature /authentic</p>		<p>Statement of compliance with tender specifications with clear and</p> <p>unambiguous links to relevant portions of product literature</p>

	document, which should be highlighted. Alternatives provided for	/authentic
	noncompliant specifications with justification must be described in detail	document, which should be highlighted. Alternatives provided for
	with supporting literature	noncompliant specifications with justification must be described in detail
	Certificate of compliance with standards and approvals stated above	with supporting literature
	Certificate of manufacturer /principal regarding authorization of service	Certificate of compliance with standards and approvals stated above
	facility provided by the supplier	Certificate of manufacturer /principal regarding authorization of service
	List of equipment available in the Service centre for proving calibration	facility provided by the supplier
	and routine preventive maintenance support, as per manufacturer	List of equipment available in the Service centre for proving calibration
	documentation in service/technical manual.	and routine preventive maintenance support, as per manufacturer
	List of important spare parts and accessories, which are required for	documentation in service/technical manual.
	maintenance and repair, with their part number and costing	List of important spare parts and accessories, which are required for
	Terms and conditions of warranty and CMC including schedules of visit	maintenance and repair, with their part number and costing
	by service personnel with check list of service to be carried out	Terms and conditions of warranty and CMC including schedules of visit
	Commitment for supply of log book with check list for daily, weekly monthly and quarterly preventive maintenance with contact details of service personnel along with the equipment. The job description of the hospital technician and company service engineer should be clearly spelt	by service personnel with check list of service to be carried out
	out in the log book	Commitment for supply of log book with check list for daily, weekly monthly and quarterly preventive maintenance with contact details of service personnel along with the equipment. The job description of the hospital technician and company service engineer should be clearly spelt
	List of users of quoted model with performance certificate from major	out in the log book
		List of users of quoted model with performance certificate from major

	<table border="1"> <tr><td>Hospitals</td></tr> <tr><td>All the offered should be US FDA & European CE approved or as otherwise mentioned</td></tr> <tr><td>All equipment's should be from the same manufacturer unless otherwise mentioned.</td></tr> <tr><td>The principal Company should have their own Service Centre in Delhi/ NCR</td></tr> <tr><td>Comprehensive Warranty of main laparoscopic equipments should be of 5 years and 5 years comprehensive maintenance service after warranty</td></tr> <tr><td>Cost of CMC must be quoted in price bid</td></tr> <tr><td>All companies should quote their latest model of HD system</td></tr> </table>	Hospitals	All the offered should be US FDA & European CE approved or as otherwise mentioned	All equipment's should be from the same manufacturer unless otherwise mentioned.	The principal Company should have their own Service Centre in Delhi/ NCR	Comprehensive Warranty of main laparoscopic equipments should be of 5 years and 5 years comprehensive maintenance service after warranty	Cost of CMC must be quoted in price bid	All companies should quote their latest model of HD system		<table border="1"> <tr><td>Hospitals</td></tr> <tr><td>All the offered should be US FDA, BIS & European CE approved or as otherwise mentioned</td></tr> <tr><td>All equipment's should be from the same manufacturer unless otherwise mentioned.</td></tr> <tr><td>The principal Company should have their own Service Centre in Delhi/ NCR</td></tr> <tr><td>Comprehensive Warranty of main laparoscopic equipments should be of 5 years and 5 years comprehensive maintenance service after warranty</td></tr> <tr><td>Cost of CMC must be quoted in price bid</td></tr> <tr><td>All companies should quote their latest model of HD system</td></tr> </table>	Hospitals	All the offered should be US FDA, BIS & European CE approved or as otherwise mentioned	All equipment's should be from the same manufacturer unless otherwise mentioned.	The principal Company should have their own Service Centre in Delhi/ NCR	Comprehensive Warranty of main laparoscopic equipments should be of 5 years and 5 years comprehensive maintenance service after warranty	Cost of CMC must be quoted in price bid	All companies should quote their latest model of HD system	
Hospitals																		
All the offered should be US FDA & European CE approved or as otherwise mentioned																		
All equipment's should be from the same manufacturer unless otherwise mentioned.																		
The principal Company should have their own Service Centre in Delhi/ NCR																		
Comprehensive Warranty of main laparoscopic equipments should be of 5 years and 5 years comprehensive maintenance service after warranty																		
Cost of CMC must be quoted in price bid																		
All companies should quote their latest model of HD system																		
Hospitals																		
All the offered should be US FDA, BIS & European CE approved or as otherwise mentioned																		
All equipment's should be from the same manufacturer unless otherwise mentioned.																		
The principal Company should have their own Service Centre in Delhi/ NCR																		
Comprehensive Warranty of main laparoscopic equipments should be of 5 years and 5 years comprehensive maintenance service after warranty																		
Cost of CMC must be quoted in price bid																		
All companies should quote their latest model of HD system																		
14.	<p>16. C-Arm Image Intensifier</p> <p>1. 9" triple field Image Intensifier with zoom function should be provided. CCD Camera with motorized facility rotation and 1K X 1K matrix. Fluoro / Radiography and play upto 25 frames/sec.</p> <p>1. Dual Medical 19" (48 cm) LCD anti glare panel.</p> <p>2. C-ARM : It must have ISOCENTRIC movements. Following movements should be available:</p> <p>2.1 Vertical, RAO, LAO and Cranio caudal movements must be motorized and also remote controlled.</p> <p>2.3 Rotation : 180 Degrees.</p> <p>2.4 Motorized Up/Down : At least 350mm.</p>		<p>16. C-Arm Image Intensifier</p> <p>1. 9" triple field Image Intensifier with zoom function should be provided. CCD Camera with motorized facility rotation and 1K X 1K matrix. Fluoro / Radiography and play upto 25 frames/sec.</p> <p>1. Dual Medical 19" (48 cm) LCD anti glare panel.</p> <p>2. C-ARM : It must have ISOCENTRIC movements. Following movements should be available:</p> <p>2.1 Vertical, RAO, LAO and Cranio caudal movements must be motorized and also remote controlled.</p> <p>2.3 Rotation : 180 Degrees.</p> <p>2.4 Motorized Up/Down : At least 350mm.</p>															

<p>2.5 Horizontal Travel : At least 100 mm. 2.6 Arc orbital Movement : At least 85 deg +25 deg. 2.7 Free space should be at least 30.7” (78 cm). 2.8 Source to image distance should be 39.4”(100 cm) Integrated laser light positioning. 3. X-RAY GENERATOR: High Frequency x-ray generator with single tank converter frequency of minimum. 3.1 40 KHz or more with power output of min. 20 KW or more should be provided. Unit should have following parameters. 3.2 KV range : 40 to 110KV (Rad. / Fluoro). 3.3 Max mA : 250mA OR more. 4. X-RAY TUBE 4.1 Dual focus rotating anode X-Ray Tube of dual focal spot size (e.g. 0.3 and 0.6mm) to be provided. 4.2 Anode heat storage capacity should be 300KHU or better. 4.3 Anode coiling capacity should be 70kHU/min. or higher. The tube housing heat. 4.4 capacity should be a minimum of 1600000 HU. 4.5 X Ray tube must be from same manufacturer OR from same country where main machine is manufactured. Attach documentary evidence. 5. CONTROL : Control panel should have : Pulse Fluoro, Radiography. Physician controlled advanced multifunctional double foot switch, hand switch. Remote control (wired) for motorized movement control of C arm . 6. DIGITAL IMAGE ACQUISITION & PROCESSING SYSTEM 6.1 Cine loop acquire up to 25 frame/second. 6.2 Pulsed fluoroscopy. 6.3 Autoimagestorageinharddiscdriveupto1,00,000. 6.4 Image zoom and multiple image display, Windows and level, Electronic collimator Image flipping and rotation, Image measurement. 6.5 Image Management features: Integrated DICOM interface. Image storage to disk during fluoroscopy, pulsed fluoroscopy, digital radiography, digital serial radiography. Archiving should be digital with facility to make CD/DVD and others.</p>	<p>2.5 Horizontal Travel : At least 100 mm. 2.6 Arc orbital Movement : At least -85 deg +25 deg. 2.7 Free space should be at least 30.7” (76 cm or more). 2.8 Source to image distance should be 39.4” (97 cm or more) Integrated laser light positioning. 3. X-RAY GENERATOR: High Frequency x-ray generator with single tank converter frequency of minimum. 3.1 40 KHz or more with power output of min. 15 KW or more should be provided. Unit should have following parameters. 3.2 KV range : 40 to 110KV or more (Rad. / Fluoro). 3.3 Max mA : 250mA OR more. 4. X-RAY TUBE 4.1 Dual focus rotating anode X-Ray Tube of dual focal spot size (e.g. 0.3 and 0.6mm) to be provided. 4.2 Anode heat storage capacity should be 300KHU or better. 4.3 Anode coiling capacity should be 70kHU/min. or higher. The tube housing heat. 4.4 capacity should be a minimum of 1600000 HU. 4.5 X Ray tube must be from same manufacturer OR from same country where main machine is manufactured. Attach documentary evidence. 5. CONTROL : Control panel should have : Pulse Fluoro, Radiography. Physician controlled advanced multifunctional double foot switch, hand switch. Remote control for motorized movement control of C arm . 6. DIGITAL IMAGE ACQUISITION & PROCESSING SYSTEM 6.1 Cine loop acquire up to 25 frame/second. 6.2 Pulsed fluoroscopy. 6.3 Autoimagestorageinharddiscdriveupto1,00,000. 6.4 Image zoom and multiple image display, Windows and level, Electronic collimator Image flipping and rotation, Image measurement. 6.5 Image Management features: Integrated DICOM interface. Image storage to disk during fluoroscopy, pulsed fluoroscopy, digital radiography, digital serial radiography. Archiving should be digital with facility to make CD/DVD and others. Provision of Large capacity disk for storage. All DICOM class must be</p>
--	--

	<p>Provision of Large capacity disk for storage. All DICOM class must be available.</p> <p>7. Essential Accessories: 7.1 Thermal Printer with 100 paper rolls. Multifunction fluoroscopy footswitch. Radiography hand switch . 7.2 Dosimeter (DAP). Light weight Lead apron including thyroid shield – 6 nos. Voltage stabiliser for full unit with spike suppressor. 7.3 UPS for digital section/ monitors with 30 minute back up. 7.4 Grid with 8:1, 100 lines per inch. Certification USFDA/ European CE approved.</p>	<p>available.</p> <p>7. Essential Accessories: 7.1 Thermal Printer with 100 paper rolls. Multifunction fluoroscopy footswitch. Radiography hand switch . 7.2 Dosimeter (DAP). Light weight Lead apron including thyroid shield – 6 nos. Voltage stabiliser for full unit with spike suppressor. 7.3 UPS with 30 minute back up. 7.4 Grid with 8:1, 100 lines per inch. Certification USFDA/ European CE/ BIS approved.</p>
15.	<p>17. Upper GI Endoscope</p> <p>A) Video Gastro-scope – Should have the following:</p> <p>To be now read as "Capable of producing Endoscopy images like NBI/SPIES/I-SCAN, with following features:".</p> <p>a. High Definition / Digital Video Processor".</p> <p>b. Forward viewing</p> <p>c. Observation range: minimum 5mm or less, maximum 100 mm or more</p> <p>d. Field of view: 140 degrees or more</p> <p>e. Distal end diameter: 11 mm or less</p> <p>f. Bending capabilities: up-200 degrees or more</p> <p>g. Down-120 degrees or more</p> <p>h. Left- 120 degrees or more</p> <p>i. Right-120 degrees or more</p> <p>j. Forceps channel diameter; minimum 2.8mm</p> <p>k. Working length: "1030 mm or more"</p> <p>B) Video Colonoscope – Should have the following:</p> <p>Capable of producing Endoscopy images like NBI/SPIES/I-SCAN, with following features:".</p> <p>a. "High Definition / Digital Video Processor".</p>	<p>17. Upper GI Endoscope</p> <p>A) Video Gastro-scope – Should have the following:</p> <p>To be now read as "Capable of producing Endoscopy images like NBI/SPIES/I-SCAN, with following features:".</p> <p>a. High Definition / Digital Video Processor".</p> <p>b. Forward viewing</p> <p>c. Observation range: minimum 5mm or less, maximum 100 mm or more</p> <p>d. Field of view: 140 degrees or more</p> <p>e. Distal end diameter: 11 mm or less</p> <p>f. Bending capabilities: up-200 degrees or more</p> <p>g. Down-120 degrees or more</p> <p>h. Left- 120 degrees or more</p> <p>i. Right-120 degrees or more</p> <p>j. Forceps channel diameter; minimum 2.8mm</p> <p>k. Working length: "1030 mm or more"</p> <p>B) Video Colonoscope – Should have the following:</p> <p>Capable of producing Endoscopy images like NBI/SPIES/I-SCAN, with following features:".</p> <p>a. "High Definition / Digital Video Processor".</p>

b. Forward viewing	b. Forward viewing
c. Observation range: minimum 4mm or less, maximum 100 mm or more	c. Observation range: minimum 4mm or less, maximum 100 mm or more
d. Field of view: 140 degrees or more	d. Field of view: 140 degrees or more
e. Distal end diameter: 14 mm or less	e. Distal end diameter: 14 mm or less
f. Bending capabilities: up - 180 degrees or better	f. Bending capabilities: up - 180 degrees or better
g. Down-180 degrees or better	g. Down-180 degrees or better
h. Left-160 degrees or better	h. Left-160 degrees or better
i. Right - 160 degrees or better	i. Right - 160 degrees or better
j. Forceps channel diameter: "3.7/3.8 mm minimum".	j. Forceps channel diameter: "3.7/3.8 mm minimum".
k. Working length: "1600mm or better"	k. Working length: "1600mm or better"
The following items should also be included in both the scopes:	The following items should also be included in both the scopes:
Carrying Case	Carrying Case
ETO Cap	ETO Cap
Leakage Tester	Leakage Tester
Caps for Working Channel	Caps for Working Channel
Irrigation Tube	Irrigation Tube
Bite protector (in Gastroscope only)	Bite protector (in Gastroscope only)
Biopsy Forceps	Biopsy Forceps
Cleaning Brush	Cleaning Brush
Cleaning Valve	Cleaning Valve
Snare	Snare
Injection needle	Injection needle
Each of the above Scopes should be supplied along with each of the following:	Each of the above Scopes should be supplied along with each of the following:
HIGH DEFINITION / DIGITAL VIDEO PROCESSOR".	HIGH DEFINITION / DIGITAL VIDEO PROCESSOR".
Special Features:	Special Features:
a. "High definition digital output: DVI (1280 X 1024/ 1920 X 1080 - Optional)".	a. "High definition digital output: DVI (1920 X 1080 - Optional)".

b. Colour enhancement technology	b. Colour enhancement technology
c. Capable of connection to image capture device for recording HD still and video images	c. Capable of connection to image capture device for recording HD still and video images
XENON LIGHT SOURCE	XENON LIGHT SOURCE
a. "100 to 300 Watts Light source (Xenon or LED Light Source)".	a. "100 to 300 Watts Light source (Xenon or LED Light Source)".
b. Backup lamp halogen/Led/Xenon	b. Spare Lamp (2 Nos.)
c. "Lamp life of Xenon bulb should be 500 hrs / LED bulb should be 25000 hrs or more"..	c. "Lamp life of Xenon bulb should be 500 hrs / LED bulb should be 25000 hrs or more"..
d. Back up lamp should be available / Spare Light source".	d. Back up lamp should be available Light source.
e. 100 to 300 watts Light source (Xenon or LED Light Source) can be separate unit or integrated with the HD / Digital video processor".	e. 100 to 300 watts Light source (Xenon or LED Light Source) can be separate unit or integrated with the HD / Digital video processor".
Video Monitor: System should be supplied with a 19" or more size High Definition Medical Grade Monitor (LED / LCD) Max Resolution 1280 x 1024	Video Monitor: System should be supplied with a 26" or more size High Definition Medical Grade Monitor (LED / LCD) Max Resolution 1920 x 1080
Suction Machine	Suction Machine
The Machine should offer quiet, low vibration operation, thus creating a pleasing environment for carrying out examinations and facilitating stress-free, concentrated work.	The Machine should offer quiet, low vibration operation, thus creating a pleasing environment for carrying out examinations and facilitating stress-free, concentrated work.
Should have	Should have
1- High suction capacity of 30 liters/minute	1- High suction capacity of 30 liters/minute
2- Maintenance free cylinder and piston system	2- Maintenance free cylinder and piston system
3- Hydrophobic bacterial filter to protect the pump	3- Hydrophobic bacterial filter to protect the pump
4- Easy to clean.	4- Easy to clean.
5- Should be medical grade and European CE (EN type)/ USFDA approved.	5- Should be medical grade and European CE (EN type)/ USFDA/ BIS approved.
Technical data:	Technical data:
Suction capacity: 30 liters/minute	Suction capacity: 30 liters/minute
Vacuum: up to 85kPa, up to 640mmHg	Vacuum: up to 85kPa, up to 640mmHg

	<p>Line voltage: 230VAC, 50/60 Hz</p> <p>Protection Class: Protection class I; BF;</p> <p>Equipment Cart</p> <p>Should be imported and have following specifications-</p> <p>Equipment cart rides on 4 antistatic wheels, equipped with atleast 02 locking brakes, 3 fixed shelves, 1 with handles and lockable drawer, scope hanger to mount flexible scope.</p> <p>All the offered products should be USFDA or European CE (EN type certified) approved, no discontinued products or recalled products (in past also) should be quoted.</p> <p>Following items are to be added as part of the equipment:</p> <p>Computer with recording software & printer</p> <p>UPS 1.5KVA on line with half hour back up</p>	<p>Line voltage: 230VAC, 50/60 Hz</p> <p>Protection Class: Protection class I; BF;</p> <p>Equipment Cart</p> <p>Should be imported and have following specifications-</p> <p>Equipment cart rides on 4 antistatic wheels, equipped with atleast 02 locking brakes, 3 fixed shelves, 1 with handles and lockable drawer, scope hanger to mount flexible scope.</p> <p>All the offered products should be USFDA or European CE (EN type certified) or BIS approved, no discontinued products or recalled products (in past also) should be quoted.</p> <p>Following items are to be added as part of the equipment:</p> <p>Computer with recording software & Laserjet printer (Reputed make local supply)</p> <p>UPS 1.5KVA on line with half hour back up</p>
16.	<p>18. Electro Caurtery Machine With vessel Sealer</p> <ol style="list-style-type: none"> 1. Electro surgery unit should automatically adjust the power output. Intelligent microprocessor technology should deliver the required amount of power according to current need. 2. Should have vessel sealing output for vessels upto 7mm for laparoscopic & open surgeries. 3. Should have autostart & autostop faculty for bipolar modes. 4. Should have bipolar cut and coagulation facility. 5. System should have universal socket for Monopolar electrode, Bipolar & Neutral electrode. 6. System should have display of parameters; TFT/LCD display with focused view of current active mode. 7. Visual indicator for actual power being delivered to tissues. 8. Voltage and power regulation in a single system for better coagulation. 9. Activation by double paddle foot switch and hand switch. 10. Activation of the bipolar should be by footswitch and automatic Start facility. 11. Visual & audible Display/Alarm supported patient plate safety system 	<p>18. Electro Caurtery Machine With vessel Sealer</p> <ol style="list-style-type: none"> 1. Electro surgery unit should automatically adjust the power output. Intelligent microprocessor technology should deliver the required amount of power according to current need. 2. Should have vessel sealing output for vessels upto 7mm for laparoscopic & open surgeries. 3. Should have autostart & autostop faculty for bipolar modes. 4. Should have bipolar cut and coagulation facility. 5. System should have universal socket for Monopolar electrode, Bipolar & Neutral electrode. 6. System should have display of parameters; TFT/LCD display with focused view of current active mode. Touch Pad/ Touch Screen. 7. Visual indicator for actual power being delivered to tissues. 8. Voltage and power regulation in a single system for better coagulation. 9. Activation by double paddle foot switch and hand switch. 10. Activation of the bipolar should be by footswitch and automatic Start facility. 11. Visual & audible Display/Alarm supported patient plate safety system during activation.

<p>during activation.</p> <p>12. Automatic control of output power according to tissue resistance.</p> <p>13. Facility for ten or more Programmable memory for output settings.</p> <p>14. System should have maximum wattage for Monopolar cut - 300 watts & monopolar coagulation 01-200w.</p> <p>15. Should have bipolar cut 01to100w& bipolar coagulation 01 to 120w.</p> <p>16. System should have three modes for Cut – Auto Cut, Dry cut, Blend.</p> <p>17. System should have facility for, Spray Coagulation & Classic coagulation.</p> <p>18. Should have continuous patient monitoring for neutral electrode.</p> <p>19. Should have facility to use under water cutting(Monopolar).</p> <p>20. System should have two footpadel Sockets.</p> <p>21. Unit should be US FDA approved and European CE certification.</p> <p>Power Features</p> <p>Maximum Monopolar Cut output – 300 watt.</p> <p>Maximum Monopolar Coag output – upto 120 watts.</p> <p>Safety system:- return electrode monitoring/Neutral electrode safety system.</p> <p>(continuous patient monitoring) Supply Voltage:- 220 v – 240 v,</p> <p>Accessories:</p> <p>Trolley with castors of the same make as electrosurgical unit. Local trolley not acceptable.</p> <p>Monopolar, bipolar, vesseling, Footswitch two Paddle – 2 no. Bipolar Footswitch – 1 no.</p> <p>Reusable Hand switching pencils with cable – 5 nos.</p> <p>Bipolar Forceps straight & angled – 5 each. Reusable Cable for Bipolar Forceps – 5 nos.</p> <p>Set of Electrodes (long and short, Ball & Loop) – 5 nos. each (Totel - 20)</p> <p>Reusable Monopolar cable for connecting to Lap instruments. (Two)</p> <p>Reusable Bipolar cable for connecting to Lap instruments. (Two).</p> <p>Laparoscopic desposable vessel sealing hand instruments (34 – 44cms) 5 pieces each.</p> <p>Maryland Jaw vessel sealer 5mm (34-44cms) eg. 37cms.</p> <p>Double action Jaw vessel sealer 5mm (34-44cms) eg. 37cms.</p> <p>Disposable vessel sealing hand instruments for open surgery (18-28cms)</p>	<p>12. Automatic control of output power according to tissue resistance.</p> <p>13. Facility for ten or more Programmable/ Recall memory for output settings.</p> <p>14. System should have maximum wattage for Monopolar cut - 300 watts & monopolar coagulation 01- 120 W or more.</p> <p>15. Should have bipolar cut 01 to 95 W or more & bipolar coagulation 01 to 95 W or more.</p> <p>16. System should have three modes for Cut – Auto Cut, Dry cut, Blend.</p> <p>17. System should have facility for, Spray Coagulation & Force coagulation.</p> <p>18. Should have continuous patient monitoring for neutral electrode.</p> <p>19. Should have facility to use under water cutting (Monopolar and Bipolar).</p> <p>20. System should have two footpadel Sockets.</p> <p>21. Unit should be US FDA approved, European CE certification/ BIS.</p> <p>Power Features</p> <p>Maximum Monopolar Cut output – 300 watt.</p> <p>Maximum Monopolar Coag output – upto 120 watts.</p> <p>Safety system:- return electrode monitoring/Neutral electrode safety system.</p> <p>(continuous patient monitoring) Supply Voltage:- 220 v – 240 v,</p> <p>Accessories:</p> <p>Trolley with castors of the same make as electrosurgical unit. Local trolley not acceptable.</p> <p>Footswitch for Monopolar, bipolar & vessel sealing.</p> <p>Reusable Hand switching pencils with cable – 5 nos.</p> <p>Bipolar Forceps straight & angled – 5 each. Reusable Cable for Bipolar Forceps – 5 nos.</p> <p>Set of Electrodes (long and short, Ball & Loop) – 5 nos. each (Totel - 20)</p> <p>Reusable Monopolar cable for connecting to Lap instruments. (Two)</p> <p>Reusable Bipolar cable for connecting to Lap instruments. (Two).</p> <p>Laparoscopic desposable vessel sealing hand instruments (34 – 44cms) 5 pieces each.</p> <p>Maryland Jaw vessel sealer 5mm (34-44cms) eg. 37cms – 1 No. Reusable or 10 Nos. Disposable.</p> <p>Double action Jaw vessel sealer 5mm (34-44cms) eg. 37cms – 1 No.</p>
---	---

	<p>eg. 23cms. Maryland Jaw vessel sealer 5mm (18-28cms) eg. 23cms. Curved Jaw (16.5 seal) scissor type open surgery instrument with separate control for seal & cut. Terms & Conditions: Guarantee/Warranty for Five years & CMC/AMC for another Five years after expiry of Guarantee/Warranty. Rates for consumables should be quoted separately.. List of installations especially in Government Hospital should be submitted with performance certificate. Compliance certificate should be enclosed. Specifications should be marked/highlighted in the Technical/Detailed. Catalogue as per the compliance. Demonstrations should be given if required. Should have service centre in Delhi.</p>	<p>Reusable or 10 Nos. Disposable. Disposable vessel sealing hand instruments for open surgery (18-28cms) eg. 23cms – 1 No. Reusable or 10 Nos. Disposable. Maryland Jaw vessel sealer 5mm (18-28cms) eg. 23cms– 1 No. Reusable or 10 Nos. Disposable. Curved Jaw (16.5 seal) scissor type open surgery instrument with separate control for seal & cut– 1 No. Reusable or 10 Nos. Disposable. Terms & Conditions: Guarantee/Warranty for Five years & CMC/AMC for another Five years after expiry of Guarantee/Warranty. Rates for consumables should be quoted separately.. List of installations especially in Government Hospital should be submitted with performance certificate. Compliance certificate should be enclosed. Specifications should be marked/highlighted in the Technical/Detailed. Catalogue as per the compliance. Demonstrations should be given.</p>																
17.	<p>19. OT- TABLE REMOTE OPERATED</p> <table border="1" data-bbox="280 751 1146 1230"> <tr> <td data-bbox="280 751 405 887">1</td> <td data-bbox="405 751 1146 887">It should be a mobile universal electric /electro-hydraulic operating table with 5 section table top. Having specialized accessories for General Surgeries. The table should be hundred percent oil free</td> </tr> <tr> <td data-bbox="280 887 405 1059">2</td> <td data-bbox="405 887 1146 1059">Should have st. steel column with integrated table top, all powered motorized movements including Trendelenburg / Anti-Trendelenburg / Lateral Tilt / Back Section / Back Lift for sitting position must happen with electric / electro-hydraulic drives.</td> </tr> <tr> <td data-bbox="280 1059 405 1166">4</td> <td data-bbox="405 1059 1146 1166">Should have removable and interchangeable head and leg sections with an auto-locking mechanism to suit different functions and orientation identifiable by handset</td> </tr> <tr> <td data-bbox="280 1166 405 1230">5</td> <td data-bbox="405 1166 1146 1230">The system should be modular and should have mechanically encoded coupling joints.</td> </tr> </table>	1	It should be a mobile universal electric /electro-hydraulic operating table with 5 section table top. Having specialized accessories for General Surgeries. The table should be hundred percent oil free	2	Should have st. steel column with integrated table top, all powered motorized movements including Trendelenburg / Anti-Trendelenburg / Lateral Tilt / Back Section / Back Lift for sitting position must happen with electric / electro-hydraulic drives.	4	Should have removable and interchangeable head and leg sections with an auto-locking mechanism to suit different functions and orientation identifiable by handset	5	The system should be modular and should have mechanically encoded coupling joints.	<p>19. OT- TABLE REMOTE OPERATED</p> <table border="1" data-bbox="1189 751 2067 1230"> <tr> <td data-bbox="1189 751 1314 887">1</td> <td data-bbox="1314 751 2067 887">It should be a mobile universal electric /electro-hydraulic operating table with 5 section table top. Having specialized accessories for General Surgeries</td> </tr> <tr> <td data-bbox="1189 887 1314 1059">2</td> <td data-bbox="1314 887 2067 1059">Should have st. steel column with integrated table top, all powered motorized movements including Trendelenburg / Anti-Trendelenburg / Lateral Tilt / Back Section / Back Lift for sitting position must happen with electric / electro-hydraulic drives.</td> </tr> <tr> <td data-bbox="1189 1059 1314 1166">4</td> <td data-bbox="1314 1059 2067 1166">Should have removable and interchangeable head and leg sections with an auto-locking mechanism to suit different functions and orientation identifiable by handset</td> </tr> <tr> <td data-bbox="1189 1166 1314 1230">5</td> <td data-bbox="1314 1166 2067 1230">The system should be modular and should have mechanically encoded coupling joints.</td> </tr> </table>	1	It should be a mobile universal electric /electro-hydraulic operating table with 5 section table top. Having specialized accessories for General Surgeries	2	Should have st. steel column with integrated table top, all powered motorized movements including Trendelenburg / Anti-Trendelenburg / Lateral Tilt / Back Section / Back Lift for sitting position must happen with electric / electro-hydraulic drives.	4	Should have removable and interchangeable head and leg sections with an auto-locking mechanism to suit different functions and orientation identifiable by handset	5	The system should be modular and should have mechanically encoded coupling joints.
1	It should be a mobile universal electric /electro-hydraulic operating table with 5 section table top. Having specialized accessories for General Surgeries. The table should be hundred percent oil free																	
2	Should have st. steel column with integrated table top, all powered motorized movements including Trendelenburg / Anti-Trendelenburg / Lateral Tilt / Back Section / Back Lift for sitting position must happen with electric / electro-hydraulic drives.																	
4	Should have removable and interchangeable head and leg sections with an auto-locking mechanism to suit different functions and orientation identifiable by handset																	
5	The system should be modular and should have mechanically encoded coupling joints.																	
1	It should be a mobile universal electric /electro-hydraulic operating table with 5 section table top. Having specialized accessories for General Surgeries																	
2	Should have st. steel column with integrated table top, all powered motorized movements including Trendelenburg / Anti-Trendelenburg / Lateral Tilt / Back Section / Back Lift for sitting position must happen with electric / electro-hydraulic drives.																	
4	Should have removable and interchangeable head and leg sections with an auto-locking mechanism to suit different functions and orientation identifiable by handset																	
5	The system should be modular and should have mechanically encoded coupling joints.																	

6	The system should have electrical and functional impact prevention safety with microprocessor and linear and angular position sensors avoid collisions between the motorized sections and the table or the floor	6	Deleted.
7	Table should be equipped with a motorized table top slide of approx. 300-400mm or more	7	Table should be equipped with a motorized table top slide of approx. 300-400mm or more
8	All table positions height, lateral tilt, back, trendelburg, reverse trendelenburg and zero leveling, longitudinal sliding, table base locking and unlocking should be electro-hydraulically operated using a touch switches on hand held controller. It should also indicate the patient orientation as reverse / normal.	8	All table positions height, lateral tilt, back, trendelburg, reverse trendelenburg and zero leveling, longitudinal sliding, table base locking and unlocking should be electro-hydraulically operated using a touch switches on hand held controller. It should also indicate the patient orientation as reverse / normal.
9	Should have automatic 0 (Horizontal) position switch on hand held controller.	9	Should have automatic 0 (Horizontal) position switch on hand held controller.
10	The table should be equipped with both electronic override control panel embedded in the centre column body offering all the controls as in the hand held controller. Should also have manual back- up from foot operated system	10	The table should be equipped with both electronic override control panel embedded in the centre column body offering all the controls as in the hand held controller. Should also have manual back- up/ electric over-ride back up.
11	Table top reconfiguration should be quick and uncomplicated. Should have head rest with gas spring, double articulation type up/down -45 / +45 degree and pair of Split LEGwith Abduction facility and leg section up/down* -90/ + 90 deg.	11	Table top reconfiguration should be quick and uncomplicated. Should have head rest with gas spring, double articulation type up/down -45 / +45 degree and pair of Split LEGwith Abduction facility and leg section up/down* -90/ + 90 deg.
12	Should have latest Cordless Bluetooth Hand Control for all Powered motorized / electro-hydraulic movements.Should also have min. two to maximum six memory position selectable by surgeon for pre-determined table positions e.g. Beach Chair	12	Should have latest Cordless Hand Control for all Powered motorized / electro-hydraulic movements. Should also have min. two to maximum six memory position selectable by surgeon for pre-determined table positions e.g. Beach Chair
13	Fully charged 2x sealed gelified-lead 12V batteries should be sufficient for full week operative schedule. The centre column panel/base hand held controller should indicate the charging status and table battery status. Should be operational while batteries being recharged	13	Fully charged 2x sealed gelified-lead 12V batteries should be sufficient for full week operative schedule. The centre column panel/base hand held controller should indicate the charging status and table battery status. Should be operational while batteries being recharged

14	The table should have heavy duty minimum antistatic large swivel castors with central hydraulic locking.	14	The table should have heavy duty minimum antistatic large swivel castors with central hydraulic locking.
15	The table top should be made up of scratch-less X-Ray C-Arm translucent material and should provide full access for C-arm permitting high quality images and should allow easy X-ray with cassette holder bracket through the entire length of table	15	The table top should be made up of scratch-less X-Ray C-Arm translucent material and should provide full access for C-arm permitting high quality images and should allow easy X-ray with cassette holder bracket through the entire length of table
16	Should be Radiolucent no metallic cross links between the bars. Table top frame, coupling points and standard rails should be resistant to disinfectant agents and constructed with easy-to-clean St. Steel.	16	Should be Radiolucent no metallic cross links between the bars. Table top frame, coupling points and standard rails should be resistant to disinfectant agents and constructed with easy-to-clean St. Steel.
17	The base column should have cover of stainless steel and should prevent the ingress of fluid protection by PVC bellows	17	The base column should have cover of stainless steel and should prevent the ingress of fluid protection by PVC bellows
18	Should have moulded, antistatic with no seams, Polyurethane foam Mattress with easy to fix Velcro system to stop slippage. Mattress must be Latex free.	18	Should have moulded, antistatic with no seams, Polyurethane foam Mattress with easy to fix Velcro system to stop slippage. Mattress must be Latex free.
19	Table electronics should allow table to be connected remotely for diagnostics and maintenance service saving time for productive surgery	19	Table electronics should allow table to be connected remotely for diagnostics and maintenance service saving time for productive surgery
20	Should have safe patient weight load capacity of at least 250kg or more in all position. The stationary patient weight capacity should be 350kg or more. The literature should support both types of weight capacities.	20	Should have safe patient weight load capacity of at least 250kg or more in all position. The stationary patient weight capacity should be 350kg or more. The literature should support both types of weight capacities.
21	The table should have additionally a foot operated controls unit for Trendelenburg / Antitrendlenburg, tilt and height	21	The table should have additionally a foot operated controls unit for Trendelenburg / Antitrendlenburg, tilt and height
	Table SPECIFICATIONS: + 5% deviation is allowed		Table SPECIFICATIONS: ± 5% deviation is allowed
a	Height adjustment: min. 580-680 mm, max. 1000-1200 mm	a	Height adjustment: min. 580-680 mm, max. 1000-1200 mm
b	Side tilt: min, 18-20 degree	b	Side tilt: min, 18-20 degree
c	Back (seat) section adjustment: -40 degree to + 80 degree	c	Back (seat) section adjustment: -40 degree to + 80 degree
d	Trendelenburg adjustment : 30-40 degree	d	Trendelenburg adjustment : 30-40 degree
e	Reverse Trendelenburg adjustment : 25-40 degree	e	Reverse Trendelenburg adjustment : 25-40 degree

f	Max. width : Min. 520-580 mm with rails	f	Max. width : Min. 520-580 mm with rails
g	Overall length : 200-220 cm	g	Overall length : 200-220 cm
h	Motorized Longitudinal slide of 250-300mm	h	Motorized Longitudinal slide of 250-300mm
i	Flex / reflex: 220 degree /120 degree	i	Flex / reflex: 220 degree /120 degree
j	Kidney break /bridge elevation > 4inches	j	Kidney bridge
k	Power input to be 220-240 VAC, 50 Hz fitted with Indian plug	k	Power input to be 220-240 VAC, 50 Hz fitted with Indian plug
	SET of accessories from same source as table:		SET of accessories from same source as table:
i	Arm positioning support with radiolucent pad and clamps – One pair	i	Arm positioning support with radiolucent pad and clamps – One pair
ii	Shoulder supports with Clamps-One pair	ii	Shoulder supports with Clamps-One pair
iii	Anesthesia Screen – 1 no.	iii	Anesthesia Screen – 1 no.
iv	Infusion pole – 1 no.	iv	Infusion pole – 1 no.
v	Body strap with locking Clamps – 2nos. (One Large and One Extra large)	v	Body strap with locking Clamps – 2nos. (One Large and One Extra large)
vi	Raised arm Support - One	vi	Raised arm Support - One
vii	Simple Lateral support with rectangular rubber pads-One pair	vii	Simple Lateral support with rectangular rubber pads-One pair
viii	Lithotomy Goepel Leg Support with Ball socket joint movement – One pair	viii	Lithotomy Goepel Leg Support with Ball socket joint movement – One pair
ix	Adjustable instrument st. steel table, bridge shaped with clamp- One	ix	Adjustable instrument st. steel table, bridge shaped with clamp- One
x	Head Gel Pad ring- 1nos. – adult and pediatric each.	x	Head Gel Pad ring- 1nos. – adult and pediatric each.
xi	Set of Visco / Gel 3D pads for supporting: Chest flat Roll, Sacral pad, heels pads (Pair) – each.	xi	Set of Visco / Gel 3D pads for supporting: Chest flat Roll, Sacral pad, heels pads (Pair) – each.
	Terms and conditions		Terms and conditions
1	Deleted	1	Deleted
2	In case the table is imported the accessories must also be imported with the table and must not be locally sourced.	2	In case the table is imported the accessories must also be imported with the table and must not be locally sourced.
3	The quoted equipment should be having US-FDA/	3	The quoted equipment should be having US-FDA/

		European CE Certification. approval.		European CE/BIS Certification approval.
	4	Original catalogue and literature to be enclosed.		4 Original catalogue and literature to be enclosed.
	5	The vendor should have a good service and application back up along with instruments to provide an effective trouble shooting and support. (response time < 24 hours)		5 The vendor should have a good service and application back up along with instruments to provide an effective trouble shooting and support. (response time < 24 hours)
	6	All technical bids comparative statement to the tender specifications must be enclosed along with reference no., paragraph no. from original catalogue of the equipment.		6 All technical bids comparative statement to the tender specifications must be enclosed along with reference no., paragraph no. from original catalogue of the equipment.
	7	Demonstration should be provided , if asked for		7 Demonstration should be provided , if asked for

18.	<p>20. Video Laryngoscope (Adult and Pediatric)</p> <ol style="list-style-type: none"> 1) Portable video laryngoscope for intubations with minimal manipulation of head and neck for Adult and Pediatric 2) Should have CMOS camera 3) Should have fog free medical- Optical polymer 4) Should have suitable view angle to visualize glottis without neck and head manipulation, ergonomically. 5) Color video monitor. 6) Cold light source. <p>FLEXIBLE FIBEROPTIC LARYNGOSCOPE</p> <ol style="list-style-type: none"> 1. The working length of the fibre scope should be approx 30 cm 2. Range of bending at the tip should be minimum 120 degree up and 60 degree down. 3. Outer Channel diameter 5 mm or more 4. Channel 2mm or more 5. Leak test facility. 6. Handle should be light weight <p>COLOUR MONITOR: 15” Colour Monitor – Medical Grade</p> <p>LIGHT SOURCE:</p> <ul style="list-style-type: none"> • Compatible light source 150-250W Halogen/LED/Xenon • Automatic light adjustment to maintain optimum brightness <p>RECORDER:</p> <ul style="list-style-type: none"> • Storage of video sequences of CD ROM • Automatic Light adjustment to maintain optimum brightness <p>Suitable TROLLY</p>	<p>20. Video Laryngoscope (Adult and Pediatric)</p> <ol style="list-style-type: none"> 1) Portable video laryngoscope for intubations with minimal manipulation of head and neck for Adult and Paediatric. Standard Macintosh (4 size) & Miller Metallic (0 size) Reusable blades (1 each for Adult & Paediatric). 2) Should have CMOS camera 3) Should have fog free medical- Optical polymer 4) Should have suitable view angle to visualize glottis without neck and head manipulation, ergonomically. One special curved blade one each for adult & paediatric intubation for difficult intubation. 5) Color video monitor. 6) Cold light source. <p>FLEXIBLE LARYNGOSCOPE (Adult & Paediatric)</p> <ol style="list-style-type: none"> 1. The working length of the fibre scope should be approx 60 cm or more with CMOS technology. 2. Range of bending at the tip should be minimum 120 degree up and 60 degree down. 3. Outer Channel diameter 5 mm or more for Adult and 4 mm or more for paediatric. 4. Channel 2mm or more for Adult and 1.5 mm or more for paediatric. 5. Leak test facility. 6. Handle should be light weight <p>COLOUR MONITOR: 7” or more Colour Monitor – Medical Grade</p> <p>LIGHT SOURCE:</p> <ul style="list-style-type: none"> • Compatible light source 150-250W Halogen/LED/Xenon • Automatic light adjustment to maintain optimum brightness <p>RECORDER:</p> <ul style="list-style-type: none"> • Storage of video sequences of CD ROM/ SD Card/ USB Port • Automatic Light adjustment to maintain optimum brightness <p>Suitable TROLLY.</p> <p>Video Laryngoscope, Flexible Laryngoscope, Colour Monitor & Light Source to be of the same manufacturer.</p>
-----	--	---

All other terms and conditions of the tender enquiry document shall remain unchanged.

Prospective bidders are advised to regularly visit HSCC website/ CPPP website for corrigendum /amendments etc. if any, as these will be notified on these portals only. No separate advertisement will published in the news papers in this regard.

s/d
CGM, HSCC (India) Limited
For and on behalf of TRIHMS, Naharlagun