

**30.04.2018**

**TAMILNADU MEDICAL SERVICES CORPORATION LTD.,**

**TENDER FOR FIXING RATE CONTRACT FOR SUPPLY AND INSTALLATION OF  
MULTIPARA MONITOR WITH ECG, SPO2, NIBP TO VARIOUS GOVT. HOSPITALS**

**TENDER NO.254/MON/NRHM/TNMSC/ENGG/2018, DT.02.01.2018**

**Corrigendum**

a) The following corrigendum are issued:-

<b>Sl. No.</b>	<b>Tender Document Reference</b>	<b>Instead of</b>	<b>Read as</b>
1.	Page No.1, 3 & 5	Tender for fixing rate contract for supply and installation of Multipara Monitor with ECG, SPO2, NIBP to Various Govt. Hospitals	Tender for fixing rate contract for supply and installation of Multipara Monitor and STEMI Kits to Various Govt. Hospitals
2.	Page No.52 Schedule of Requirements	Existing Text	Revised Text at Annexure - I
3.	Page No.55 to 58 Section VI: Technical Specifications	Existing Text	Revised Text at Annexure - II
4.	Page No.59 to 61 Section VI A: Qualification Criteria	Existing Text	Revised Text at Annexure - III
5.	Page No.64 Section VII: Bid Form and Price Schedule	Existing Text	Revised Text at Annexure - IV

All other terms and conditions of the tender remain unaltered.

The above forms part of the bidding documents. The bidder shall attach the copy of this corrigendum duly signed by their authorized signatory, in their bid.

**Sd/-**

**General Manager (E)**

**SECTION – V**  
**SCHEDULE OF REQUIREMENTS -REVISED**

<b>Sch. No.</b>	<b>Description</b>	<b>Unit</b>	<b>Qty.</b>	<b>Bid security (Rs.)</b>
1.	Multipara Monitor as per specification	Nos.	90	Rs.2,00,000/-
2.	STEMI kit for Hub Hospitals – Portable ECG & other accessories	Nos.	36	Rs. 27,000/-
3.	STEMI kit for Spoke Hospitals – Portable ECG & other monitoring devices SpO2 & NIBP as per specification	Nos.	160	Rs.1,20,000/-
4.	STEMI kit for Ambulance – Portable ECG & other monitoring devices SpO2 & NIBP as per specification	Nos.	320	Rs.2,40,000/-

**Delivery Schedule: -**

<b>Sl. No</b>	<b>Brief Description</b>	<b>Delivery schedule</b>
1.	Multi para Monitor	60 days from the date of purchase order for the full quantity and for increased quantity the delivery period will be increased proportionately.
2.	STEMI kit for Hub Hospitals – Portable ECG & other accessories	30 days from the date of purchase order for the full quantity and for increased quantity the delivery period will be increased proportionately.
3.	STEMI kit for Spoke Hospitals – Portable ECG & other monitoring devices SpO2 & NIBP	90 days from the date of purchase order for the full quantity and for increased quantity the delivery period will be increased proportionately.
4.	STEMI kit for Ambulance – Portable ECG & other monitoring devices SpO2 & NIBP	120 days from the date of purchase order for the full quantity and for increased quantity the delivery period will be increased proportionately.

**Place of Delivery:- The above equipment should be delivered at following places.**

**1. MULTIPARA MONITOR**

<b>Sl. No.</b>	<b>Name of the Hospital</b>	<b>Qty.</b>
1.	Govt. Hospital, Kancheepuram	3
2.	Govt. Hospital, Tambaram	3
3.	Govt. Hospital, Maduranthagam	3
4.	Govt. Hospital, Uthiramerur	3
5.	Govt. Hospital, Sriperumbadur	3
6.	Govt. Hospital, Wallajabad	3
7.	Govt. Hospital, Gudiyatham	3
8.	Govt. Hospital, Tirupathur	3
9.	Govt. Hospital, Wallajapet	3
10.	Govt. Hospital, Sholingar	3
11.	Govt. Hospital, Cheyyar	3
12.	Govt. Hospital, Srirangam	3
13.	Govt. Hospital, Manapparai	3
14.	Govt. Hospital, Thuraiyur	3
15.	Govt. Hospital, Lalgudi	3
16.	Govt. Hospital, Kumbakonam	3
17.	Govt. Hospital, Mannarkudi	3
18.	Govt. Hospital, Tiruvaiyaru	3
19.	Govt. Hospital, Pattukottai	3
20.	Govt. Hospital, Palladam	3
21.	Govt. Hospital, Valparai	3
22.	Govt. Hospital, Kangeyam	3
23.	Govt. Hospital, Pollachi	3
24.	Govt. Hospital, Tiruppur	3
25.	Govt. Hospital, Mettupalayam	3
26.	Govt. Hospital, Amasamuthram	3

<b>Sl. No.</b>	<b>Name of the Hospital</b>	<b>Qty.</b>
27.	Govt. Hospital, Tenkasi	3
28.	Govt. Hospital, Koilpatti	3
29.	Govt. Hospital, Shengottai	3
30.	Govt. Hospital, Sankarankoil	3
	<b>Total</b>	<b>90</b>

## **2. STEMI kit for Hub Hospitals – Portable ECG & other accessories**

<b>Sl. No.</b>	<b>Name of the Hospital</b>	<b>Qty.</b>
1.	Rajiv Gandhi Govt. General Hospital, Chennai	3
2.	Omandurar Hospital, Chennai	3
3.	Govt. Stanley Medical College Hospital, Chennai	3
4.	Govt. Rajaji Hospital, Madurai	3
5.	Govt. Coimbatore Medical College Hospital, Coimbatore	3
6.	Govt. Medical College, Salem	3
7.	Govt. Kilpauk Medical College Hospital, Kilpauk	3
8.	Govt. Thanjavur Medical College Hospital, Thanjavur	3
9.	Govt. Tirunelveli Medical College Hospital, Tirunelveli	3
10.	Govt. Tiruchirapalli Medical College Hospital, Trichy	3
11.	Govt. Vellore Medical College Hospital, Vellore	3
12.	Govt. Chengalpattu Medical College Hospital, Chengalpattu	3
<b>Total</b>		<b>36</b>

### 3. STEMI kit for Spoke Hospitals – Portable ECG & other monitoring devices SpO2 & NIBP.

SPOKE HOSPITAL								
Sl. No.	District	Name of the Hospital – Each Hospital – 1 No.						
1	Kancheepuram	Kancheepuram HQRS	Tambaram GH	Maduranthagam GH	Sriperampudur GH	Cheyyur GH		
2	Coimbatore	Pollachi HQRS	Mettupalayam GH	Valparai GH	Kollarpatti GH	Sundakamuthur GH		
3	The Nilgiris	Uthagamandalam HQRS	Coonoor GH	Gudalur GH	Kothagiri GH	Pandalur GH		
4	Tiruppur	Tiruppur HQRS	Udamalpet GH	Palladam GH	Kangeyan GH	Uthukuli GH		
5	Dindugul	Dindugul HQRS	Palani GH	Natham GH	Vedasandhur GH	Oddancatram GH		
6	Madurai	Usilampatti HQRS	Melur GH	Thirumangalam GH	Periyur GH	Vadipatti GH		
7	Ramanathapuram	Ramanathapuram HQRS	Paramakudi GH	Kadaladi	Rameswaram GH	Thiruvadana GH		
8	Sivagangai	Karaikudi HQRS	Devakottai GH	Thirupathur GH	Thirupuvanam GH	Manamadurai GH		
9	Theni	Periyakulam HQRS	Bodinaickannur	Uthamapalayam GH	Andipatti GH	Cumbam GH		
10	Virudhunagar	Virudhunagar HQRS	Rajapalayam GH	Sathur GH	Sivakasi GH	Srivilliputhur GH		
11	Dharmapuri	Pennagaram HQRS	Harur GH	Palakode GH	Papireddipatty GH	Dharmapuri Leprasy		
12	Erode	Erode HQRS	Gobichettypalayam GH	Bhavani GH	Sathiyamangalam GH	IRT Perundurai		
13	Krishnagiri	Krishnagiri HQRS	Denkanikottai GH	Uthangarai GH	Pochampalli GH	Hosur GH		
14	Namakkal	Namakkal HQRS	Paramathyvellore	Thiruchangodu	Rasipuram GH	Kolli Hills GH		

**SPOKE HOSPITAL**

<b>Sl. No.</b>	<b>District</b>	<b>Name of the Hospital – Each Hospital – 1 No.</b>						
			GH	GH				
15	Salem	Mettur Dam HQRS	Attur GH	Omalur GH	Edapadi GH	Yercaud GH		
16	Tiruvallur	Tiruvallur HQRS	Tirutani GH	Ponneri GH	Avadi GH	Gummidipoondi GH		
17	Nagapattinam	Nagapattinam HQRS	Mailadudurai GH	Sirkazhi GH	Tharamgampadi GH	Thirukuvalai GH		
18	Pudukottai	Pudukottai HQRS	Aranthangi GH	Mananmelkudi GH	Auvudaiyar Koil Gh	Karambakudi GH		
19	Thanjavur	Kumbakonam HQRS	Papanasam GH	Pattukottai GH	Peravurani GH	Thiruvaiyaru GH		
20	Thiruvarur	Mannargudi HQRS	Thiruthuraiipoondi GH	Nanilam Gh	Kodavasal GH	Needamangalam GH		
21	Kanniyakumari	Padhmanabapuram HQRS	Kuzhithurai GH	Boothapandi GH	Kanniyakumari GH	Karingal GH		
22	Thoothukudi	Kovilpatti HQRS	Tiruchendur GH	Sathankulam GH	Vilathikulam GH	Ottapidaram GH		
23	Tirunelveli	Tenkasi HQRS	Sankarankovil GH	shengottah GH	Sivagiri GH	Ambasamuthiram		
24	Ariyalur	Ariyalur HQRS	Jayamkondan GH	Sendurai GH	Udayarpalayam GH	-		
25	Karur	Karur HQRS	Krishnayapuram GH	Aravankurichi GH	Manmangalam GH	Kulithalai GH		
26	Perambalur	Perambalur HQRS	Krishnapuram GH	Padalur GH	Veppur GH	-		
27	Tirchy	Manaparai HQRS	Thuraiyur GH	Musiri GH	Thiruverumbur	Thottiam		
28	Cuddalore	Cuddalore HQRS	Chidambaram	Kurinjpadi	Kattumannarkoil	Panruti		
29	Vellore	Walajapet HQRS	Tirupathur	Gudiyatham	Arcot	Vellore		
30	Villupuram	Kallakurichi	Dindivanam	Villupuram	Ulundurpet	Thirukovilur		

**SPOKE HOSPITAL**

<b>Sl. No.</b>	<b>District</b>	<b>Name of the Hospital – Each Hospital – 1 No.</b>						
31	Tiruvannamalai	Cheygar	Arani	Polur	Vandavasi	Chengam		
32	Chennai	Royapettah	Alanthur	KK Nagar Peripheral Hospital	Iyanavaram ESI	Madavaram GH	R.A Puram Peripheral Hospital	govt.Periphara Hospital RoyaPuram
	<b>Total- 160</b>	32	32	32	32	30	1	1

**4. STEMI kit for Ambulance – Portable ECG & other monitoring devices SpO2 & NIBP.**

GVK EMRI, DMS Campus, Teynampet – 320 Nos.

**Note :**

- 1) The rate contract should be valid for a period of 2 Years from the date of acceptance of the tender and extendable for further period on mutual acceptance.**
- 2) The quantity indicated in tentative and will vary as per the actual requirement during the rate contract period. The supplier should have no claim against the purchase on the actual quantity of orders placed during the rate contract period.**
- 3) However, during the rate contract period, further quantity may be ordered for any other Govt. Medical Institutions at the same rate and terms & conditions**



SECTION VI: TECHNICAL SPECIFICATION - REVISED

**1. SPECIFICATION FOR MULTIPARA MONITOR**

USFDA or CE approval for core device for use on pre-hospital care ambulance.

1. Wall mount option.
2. Should not be more than 5 Kgs with battery.
3. Operational temperature range from 0-50 degree C.
4. Should measure adult, pediatric and neonatal parameters.
5. **Battery**
  - a. Rechargeable lithium ion battery.
  - b. Should be able to last for minimum of 3 hours of continuous monitoring.
  - c. Should give replacement guarantee for the battery for 4 years.
  - d. Damages/penalties out of battery related accidents in the form of explosion/fire should be borne by the supplier/manufacturer.
6. Atleast 48 hours of trend memory.
7. **Alarms**
  - a. Audio as well as visual.
  - b. Adjustable and default.
  - c. Should be for low and high heart and respiratory rates.
  - d. For low saturation (Dynamic sound variation)
  - e. Low and high blood pressures.
  - f. Low battery alarms.
  - g. Arrhythmia alarms.
8. **Display**
  - i. Multicolor display.
  - ii. Minimum 8 inch and maximum 12 inch.
  - iii. Minimum 640x480 resolution.
  - iv. Touch screen. Mouse navigation desirable.
  - v. Wide viewing angle.
9. **Data**
  - i. LAN/Wireless (not infrared) port for networking.
  - ii. Should be able to connect with telemetry transceiver.
  - iii. Should follow HL7 standards for data transfer.

- iv. Customisable Patient care form.
- v. Standby/back-up GSM SIM card in case of failure of one network.  
Wherever network are robust, will work on a single GSM SIM.
- vi. Data transfer should be enabled under Wi-Fi/2G/3G to the identified destination servers.
- vii. Auto reconnect facility, whenever network is absent.
- viii. Intelligent Queue management.
- ix. Noise removal algorithm to be built-in to give accurate ECG in a running ambulance

## 10. ECG

- i. Continuous monitoring of ECG and other parameters must be displayed on the machine.
- ii. Printer
  - i. 50mm Paper
  - ii. 25mm/sec
  - iii. All 12 leads
- iii. 12 lead ECG Cable mandatory.
- iv. Heart rate ranges 30-300 bpm. This is the minimum range, a range wider than this is also acceptable.
- v. Variation in accuracy within +/-1%.
- vi. ST segment elevation detection through ST maps. Cabera representation is desirable.
- vii. Arrhythmia detection is mandatory.
- viii. ECG to be transmitted in at fixed intervals of every 5 minutes, with provision to send the specific desktops and/or PDA phones.
- ix. Facility to forward and distribute ECG & ST map form the back-end should be available.
- x. Option of activation of transmission at any point of time.
- xi. Live streaming option to be made available, if required and should be quoted separately.

## 11. Respiration

- i. Range 0-120 rpm. This is the minimum range, a range wider than this is also acceptable.

- ii. Resolution +/-1 rpm.

**12. NIBP**

- i. Oscillometric method
- ii. Manual, automatic and stat modes should be available.
- iii. Range 10-260 mm Hg, measurement should be mmHg.

**13. Temperature**

- i. C& F selectable.
- ii. 25 to 45 degree C

**14. SPO2**

- i. Range 0-100%

**15. ETCO2 up gradation capability is mandatory. (Price to be quoted Separately)**

- i. Should agree to upgrade if asked for at any time in the coming 5 years.
- ii. Cost of upgrading any time in the next 5 years to be disclosed and agreed to now.
- iii. The cost for ETCO2 sensor should also be a part of upgrade.

**16. Accessories to supplied along with the monitor**

- i. ECG Cable
- ii. SPO2 adult pediatric and Neonatal sensors.
- iii. NIBP cuffs-adult pediatric and neonatal cuffs.
- iv. Temperature Probe.
- v. Electrodes
- vi. Power Cables.
- vii. Wall mounting solution that is compatible with the ambulance interior.

17. Replacement guarantee for Monitor 3 years

18. Replacement Guarantee for Cable/Probes – 3 years.

**Technical specification for the Back-end supporting application software Back-end Data Capture**

- Online Capture of Patient Care Form along with the ECG, including option to activate alerts at the back-end and sending SMS to PDA/cellphones.
- Forward from the Back-end to facilitate pre-arrival intimation.

- Store and forward through MMS/Email to appropriate receiving hospitals can be driven from the backend software application/database. Facility to route to selective mobile phones, to monitor critical/VIP/VVIP cases is built-in.

## **2. SPECIFICATION FOR STEMI KIT FOR HUB HOSPITALS – PORTABLE ECG & OTHER ACCESSORIES**

Multifunctional unit with 12 lead Multi channel portable ECG and Other vitals monitoring Devices integrated with mobile application for telemetry and data Entry enclosed in a carry case.

### **Data Entry and Display Device**

1. Processor/Chipset: Arm Quad core 1.66G Hz or higher
2. Memory: Minimum 2 GB
3. Storage Device: Minimum 4 GB SD Card
4. Operating System: Android 4.0 or above
5. LCD: Minimum 9.5" for hospital units touch screen
6. Connectivity: Wi-Fi and 2G/3G/4G
7. Battery: Li Ion rechargeable battery
8. Admin Control: For allowing only certain chosen apps to function and deactivate the rest.
9. Accelerometer: Landscape mode when tilted.
10. Mobile Application: To record and monitor ECG with auto capture of other vitals from other device.

### **ECG**

1. 12-Lead multi-channel simultaneous acquisition
2. Portable device with mobile app interface.
3. ECG cables with IEC colour code.
4. Heart rate range from 30-230 BPM +/-10% or +/-5% BPM whichever is higher.
5. Ability to view continuous 3 hours of ECG.
6. Ability to print to A4 wireless printer.
7. Electrodes/Leads: Surface electrode patches/standard 10 lead patient cable.
8. Frequency response: 0.05 to 150 Hz
9. Leakage current:  $\leq 10$  micro amps
10. CMRR:  $> 85$  B

11. Input Impedance: greater than 2.5MΩ
12. Filter: To suppress supply frequency fluctuations
13. A/D Conversion resolution: 12 bit.
14. Sampling rate: 500 samples/sec
15. Defibrillation protection: Pulse characteristics of 5kV potential, pulse duration (5 to 20ms), carrying energy of 360 joules.
16. Battery: Lithium-ion 3.7V – minimum 2600mAH
17. No of ECGs on a single charge: 300 ECGs of 10 seconds each.

### **Communication interfaces**

1. With USB 2.0 or better
2. With Wi-Fi and 2G/3G/4G for data transfer.
3. Bluetooth
4. Wi-Fi Direct

### **Wireless Printer**

1. 400 MHZ processor
2. Speed-up to 20 ppm in A4
3. Resolution of minimum 300x300 dpi effective output.

### **Trolley**

1. Stainless steel SS 316 grade
2. Overall dimensions: 460 mm L x 305 mm W x 900 mm H or equivalent.
3. Approximate shelf dimension: 450mm L x 295 mm W or equivalent.
4. Stainless steel frame mounted on four castors, two with brakes and two without brakes.
5. Two stainless steel shelves with protective railing.
6. Supplied in semi-knocked down condition (SKD)

### **Battery**

1. 4 years replacement guarantee
2. Damages/penalties out of battery-related accidents such as explosion/fire should be borne by supplier.
3. Typical working hours: Up to 6 hours of back up.
4. Charging time: 8 hours for full charge in standard charging mode for Li-ion battery.

5. Input: Chargeable with 220 volts, (V), 5 amperes (A), 50 Hz – AC adapter (for input) and DC outputs of 5V, 2A.
6. Indicator: Charging and full charge indicator

#### **Carry Case specification**

1. Weight: <4.5 Kg
2. Carry case size: Should fit devices/specified herein.
3. Material: Industrial grade ABS

#### **Other Requirements**

1. Dimensions (L x W x H) maximum 400 mm x 280 mm x 150 mm
2. Weight: <5 Kg including battery.
3. Operating temperature range -20°C to 50°C
4. Replacements guarantee for kit and accessories for 3 years against manufacturing defects.
5. Comprehensive maintenance contract (CMC) – 7 years additional 3 years of warranty – replacement or repair of all sub-components of kit, including cables, batteries (Li-ion or alkaline).

### **3. SPECIFICATION FOR STEMI KIT FOR SPOKE HOSPITALS – PORTABLE ECG & OTHER MONITORING DEVICES SPO2 & NIBP.**

Multifunctional unit with 12 lead Multi channel portable ECG and Other vitals monitoring Devices integrated with mobile application for telemetry and data Entry enclosed in a carry case.

#### **Data Entry and Display Device**

1. Processor/Chipset: Arm Quad core 1.66G Hz or higher
2. Memory: Minimum 2 GB
3. Storage Device: Minimum 4 GB SD Card
4. Operating System: Android 4.0 or above
5. LCD: Minimum 9.5” for hospital units touch screen
6. Connectivity: Wi-Fi and 2G/3G/4G
7. Battery: Li Ion rechargeable battery
8. Admin Control: For allowing only certain chosen apps to function and deactivate the rest.
9. Accelerometer: Landscape mode when tilted.

10. Mobile Application: To record and monitor ECG with auto capture of other vitals from other device.

### **ECG**

1. 12-Lead multi-channel simultaneous acquisition
2. Portable device with mobile app interface.
3. ECG cables with IEC colour code.
4. Heart rate range from 30-230 BPM +/-10% or +/-5% BPM whichever is higher.
5. Ability to view continuous 3 hours of ECG.
6. Ability to print to A4 wireless printer.
7. Electrodes/Leads: Surface electrode patches/standard 10 lead patient cable.
8. Frequency response: 0.05 to 150 Hz
9. Leakage current:  $\leq 10$  micro amps
10. CMRR:  $>85$  B
11. Input Impedance: greater than  $2.5M\Omega$
12. Filter: To suppress supply frequency fluctuations
13. A/D Conversion resolution: 12 bit.
14. Sampling rate: 500 samples/sec
15. Defibrillation protection: Pulse characteristics of 5kV potential, pulse duration (5 to 20ms), carrying energy of 360 joules.
16. Battery: Lithium-ion 3.7V – minimum 2600mAH
17. No of ECGs on a single charge: 300 ECGs of 10 seconds each.

### **Pulse Oximeter**

1. Either CE or USFDA certified.
2. Option of SPO2 cable (Adult) or Finger probe (adult)
3. Integrated with mobile app
4. Method: Pulse Oximetry with finger clip sensors
5. Range: 0-100%
6. Accuracy: SpO2  $>70\%$  +/-2%, Pulse +/- 2 Bpm
7. Time required for calculation:  $<10$  seconds
8. Refresh rate: 10 seconds
9. Battery: Alkaline Batteries

### **Blood Pressure Monitor**

1. Either CE or USFDA certified.

2. Integrated with mobile app
3. Operating Mode: Non-supervised continuous operation
4. Type of measurement: Oscillometric
5. Pressure range: 0-299 mm Hg
6. Pressure Accuracy:  $\pm 3$  mm Hg
7. Measurement ranges for adults : compliant with AAMI SP-10 1992 standard
  - pSYS : 60-279 mm Hg or better
  - pDIA: 40-200 mm Hg or better
8. Air leakage rate of the system : <3mm Hg/minute
9. Time required for BP measurement: within 30s typical for normal and maximum of 90s – for adults
10. Battery: Alkaline batteries
11. Cuff Size: minimum 22-32 cm

#### **Communication interfaces**

1. With USB 2.0 or better
2. With Wi-Fi and 2G/3G/4G for data transfer.
3. Bluetooth
4. Wi-Fi Direct

#### **Wireless Printer**

1. 400 MHZ processor
2. Speed-up to 20 ppm in A4
3. Resolution of minimum 300x300 dpi effective output.

#### **Trolley**

1. Stainless steel SS 316 grade
2. Overall dimensions: 460 mm L x 305 mm W x 900 mm H or equivalent.
3. Approximate shelf dimension: 450mm L x 295 mm W or equivalent.
4. Stainless steel frame mounted on four castors, two with brakes and two without brakes.
5. Two stainless steel shelves with protective railing.
6. Supplied in semi-knocked down condition (SKD)

#### **Battery**

1. 4 years replacement guarantee



2. Damages/penalties out of battery-related accidents such as explosion/fire should be borne by supplier.
3. Typical working hours: Up to 6 hours of back up.
4. Charging time: 8 hours for full charge in standard charging mode for Li-ion battery.
5. Input: Chargeable with 220 volts, (V), 5 amperes (A), 50 Hz – AC adapter (for input) and DC outputs of 5V, 2A.
6. Indicator: Charging and full charge indicator

### **Carry Case specification**

Weight: <4.5 Kg

Carry case size: Should fit devices/specified herein.

Material: Industrial grade ABS

### **Other Requirements**

1. Dimensions (L x W x H) maximum 400 mm x 280 mm x 150 mm.
2. Weight: <5 Kg including battery.
3. Operating temperature range -20°C to 50°C
4. Replacements guarantee for kit and accessories for 3 years against manufacturing defects.
5. Comprehensive maintenance contract (CMC) – 7 years additional 3 years of warranty – replacement or repair of all sub-components of kit, including cables, batteries (Li-ion or alkaline).

## **4. SPECIFICATION FOR STEMI KIT FOR AMBULANCE – PORTABLE ECG & OTHER MONITORING DEVICES SPO2 & NIBP.**

Multifunctional unit with 12 lead Multi channel portable ECG and Other vitals monitoring Devices integrated with mobile application for telemetry and data Entry enclosed in a carry case.

### **Data Entry and Display Device**

1. Processor/Chipset: Arm Quad core 1.66G Hz or higher
2. Memory: Minimum 2 GB
3. Storage Device: Minimum 4 GB SD Card
4. Operating System: Android 4.0 or above
5. LCD: Minimum 7” for ambulance units

6. Connectivity: Wi-Fi and 2G/3G/4G and in-built GPS
7. Battery: Li Ion rechargeable battery
8. Admin Control: For allowing only certain chosen apps to function and deactivate the rest.
9. Accelerometer: Landscape mode when tilted.
10. Mobile Application: To record and monitor ECG with auto capture of other vitals from other device.

### **ECG**

1. 12-Lead multi-channel simultaneous acquisition
2. Portable device with mobile app interface.
3. ECG cables with IEC colour code.
4. Heart rate range from 30-230 BPM +/-10% or +/-5% BPM whichever is higher.
5. Ability to view continuous 3 hours of ECG.
6. Ability to print to A4 wireless printer.
7. Electrodes/Leads: Surface electrode patches/standard 10 lead patient cable.
8. Frequency response: 0.05 to 150 Hz
9. Leakage current:  $\leq 10$  micro amps
10. CMRR:  $>85$  B
11. Input Impedance: greater than  $2.5M\Omega$
12. Filter: To suppress supply frequency fluctuations
13. A/D Conversion resolution: 12 bit.
14. Sampling rate: 500 samples/sec
15. Defibrillation protection: Pulse characteristics of 5kV potential, pulse duration (5 to 20ms), carrying energy of 360 joules.
16. Battery: Lithium-ion 3.7V – minimum 2600mAH
17. No of ECGs on a single charge: 300 ECGs of 10 seconds each.

### **Pulse Oximeter**

1. Either CE or USFDA certified.
2. Option of SPO2 cable (Adult) or Finger probe (adult)
3. Integrated with mobile app
4. Method: Pulse Oximetry with finger clip sensors
5. Range: 0-100%
6. Accuracy: SpO2  $>70\%$  +/-2%, Pulse +/- 2 Bpm

7. Time required for calculation: <10 seconds
8. Refresh rate: 10 seconds
9. Battery: Alkaline Batteries

### **Blood Pressure Monitor**

1. Either CE or USFDA certified.
2. Integrated with mobile app
3. Operating Mode: Non-supervised continuous operation
4. Type of measurement: Oscillometric
5. Pressure range: 0-299 mm Hg
6. Pressure Accuracy:  $\pm 3$  mm Hg
7. Measurement ranges for adults : compliant with AAMI SP-10 1992 standard
  - pSYS : 60-279 mm Hg or better
  - pDIA: 40-200 mm Hg or better
8. Air leakage rate of the system : <3mm Hg/minute
9. Time required for BP measurement: within 30s typical for normal and maximum of 90s – for adults
10. Battery: Alkaline batteries
11. Cuff Size: minimum 22-32 cm

### **Communication interfaces**

1. With USB 2.0 or better
2. With Wi-Fi and 2G/3G/4G for data transfer.
3. With GPS capability.
4. Bluetooth
5. Wi-Fi Direct

### **Battery**

1. 4 years replacement guarantee
2. Damages/penalties out of battery-related accidents such as explosion/fire should be borne by supplier.
3. Typical working hours: Up to 6 hours of back up.
4. Charging time: 8 hours for full charge in standard charging mode for Li-ion battery.
5. Input: Chargeable with 220 volts, (V), 5 amperes (A), 50 Hz – AC adapter (for input) and DC outputs of 5V, 2A.

6. Indicator: Charging and full charge indicator

**Carry Case specification**

1. Weight: <4.5 Kg
2. Carry case size: Should fit devices/specified herein.
3. Material: Industrial grade ABS

**Other Requirements**

1. Dimensions (L x W x H) maximum 400 mm x 280 mm x 150 mm
2. Weight: <5 Kg including battery.
3. Operating temperature range -20°C to 50°C
4. Replacements guarantee for kit and accessories for 3 years against manufacturing defects.
5. Comprehensive maintenance contract (CMC) – 7 years additional 3 years of warranty – replacement or repair of all sub-components of kit, including cables, batteries (Li-ion or alkaline).

**Note:** Bidders shall furnish technical compliance statement for the model quoted , details of manufacturer including deviations if any. Technical catalogue /data sheet shall also be furnished in support of technical compliance statement with out fail.

## SECTION VI-A : QUALIFICATION CRITERIA

(Referred to in Clause 11.2 of ITB)

For determining the lowest-evaluated bid, the Purchaser shall carry out the post qualification of the Bidder in accordance with ITB Clause 11.2, using only the requirements specified. Requirements not included in the text below shall not be used in the evaluation of the Bidder's qualifications

*The Bidder shall furnish documentary evidence to demonstrate that it meets the following experience requirement(s):*

**1. Manufacturer Bidders**

- (i) *The bidder must have manufactured and supplied satisfactorily the similar model **quoted** in each schedule of the Schedule of Requirements either directly or through of any other authorized dealer to the extent of at least 3 Nos. for Sl. No.1., 1 No. for Sl. No.2 and 15 Nos. for Sl. No.3 & 4 under "Section – V, Schedule of Requirements" in any one of the last five years **of which minimum 1 No. for Sl. No.1 & 2 and 7 Nos. for Sl. No.3 & 4 should have been supplied to Indian Institution** and should be in use satisfactorily with no adverse report for at least one year preceding the date of bid opening.*
- (ii) *The Bidder should furnish a brief write-up, backed with adequate data, explaining his available capacity and experience (both technical and commercial) for the manufacture and supply of the required equipment within the specified time of completion after meeting all their current commitments.*
- (iii) *The bidder should clearly confirm that all the facilities exist in his factory for inspection and testing and these will be made available to the purchaser or his representative for inspection.*

**2. Non- Manufacturer Bidders**

*In the case of a Bidder offering to supply Goods under the Contract that the Bidder does not manufacture or otherwise produce, **the Bidder should be duly authorized by the manufacturer of the Goods who meets the criteria under (1) above** (all supporting documents/information as asked above for manufacturer shall be submitted with the bid) and*

- a) *The manufacturer furnishes a legally enforceable authorization in the prescribed Form [Section XI] assuring full guarantee and warranty obligations as per GCC and SCC for the goods offered; and*
- b) *The bidder, as authorized by the manufacturer, must have supplied and provided after sales service to the extent of at least 1 No. for Sl. No.1 & 2 and 7 Nos. for Sl. No.3 & 4 of the quantities of **similar model** in the Schedule of Requirements in any one of the last five (5) years **to Indian Institution**, which must be in satisfactory operation at least for one year on the date of bid opening.*

### **3. Common to Both Manufacturer and Bidder**

(i) *The information on past supplies and satisfactory performance should be given in the Proforma given under Section-X.*

(ii) *Documentary evidence (end users certificate) in support of the satisfactory operation of the goods as specified above shall invariably furnished.*

(iii) *Data to support that the manufacturer has the financial and production capacity to perform the contract and complete the supplies within the stipulated delivery period shall be furnished. for the non-manufacturer bidder data to support that he has the financial capacity to perform the contract and complete the supplies within the stipulated delivery period shall be furnished. Reports on financial standing shall be in the form of profit and loss statements, balance sheets and auditors report for the past three years, bankers certificate, etc.,*

a) *The bidder should have a manufacturing capacity of at least 810 Nos. for Sl. No.1, 648 Nos. for Sl. No.2, 960 Nos. for Sl. No.3 and 1440 nos. for Sl. No. 4 similar capacity machines per annum certified by licensing authority/ chartered accountant.*

b) *The annual sales turnover for the bidder should be at least Rs.200.00 lakhs for Sl. No.1, Rs.27.00 lakhs for Sl. No.2 and Rs.120.00 lakhs for Sl. No.3 and Rs. 240.00 lakhs for Sl. No.4 in any one of the last three years (2014-2015 to 2016-2017), and it should be certified by the chartered accountants.*

c) *The bidder should have a cash/ credit limit of at Rs.50.00 lakhs for Sl. No.1, Rs.6.75 lakhs for Sl. No.2 and Rs.30.00 lakhs for Sl. No.3 and Rs.60.00 lakhs for Sl. No. 4 with their bankers exclusively for this contract and a certificate for the above shall be furnished by the bankers.*

(iv) *Further, the manufacturer should be in continuous business of manufacturing / supplying and after sale services of products similar to that specified in the 'Schedule of requirement' during the last 5 years prior to bid opening. In case of non-manufacturer bidders, this condition should be satisfied by the manufacturer of the product.*

1 *The legal status, place of registration and principal place of business of the company or firm or partnership, etc.;*

*Notwithstanding anything stated above, the purchaser reserves the right to assess the bidder's capabilities and capacity to execute the contract satisfactorily before deciding on award*

*Even though the bidders meet the above qualifying criteria, they are subject to be disqualified if they have made misleading or false representations in the forms, statements and attachments submitted in proof of the qualification requirements; and/or record of poor performance such as, not properly completing the contract, inordinate delays in completion, litigation history, or financial failures etc.*

*Note:*

*1) The above post qualification requirements are to be met by the bidder (in case of manufacturer bidders) and the bidder and the manufacturer respectively (in case of non*

*manufacturer bidders) and qualification of group/sister/parent companies will not be considered for meeting the above requirement.*

*2) For the purpose of furnishing documentary evidence to meet the post qualification criteria, the bidder should furnish the following:*

- a. The supply made to public sector/Government units in India/private sector, the bidder should submit an affidavit confirming that the performance statement given is correct along with copy of purchase order, copy of invoices, proof of payment received from Purchasers, documentary evidence (end user certificate) in support of satisfactory completion of orders and function as stated above.”*
- b. The foreign manufacturer is permitted to submit an affidavit in their letter head duly signed by the authorized signatory of the manufacturer confirming that the performance statement given is correct.*

**ANNEXURE - IV**

**PRICE SCHEDULE - REVISED**

1	2	3	4	5					6	7	8
				PRICE FOR EACH UNIT							
Sch No.	Item Description	Country of origin	Quantity & Unit	Ex-factory Ex-warehouse Ex-showroom off-the shelf for CIF (a)	Packing & forwarding (b)	Inland transport, Insurance and Incidental costs incidental to delivery (c)	Incidental services as listed in clause 7 of SCC (d)	Customs duty (e)	Unit price a+b+c+d+e	Total price per schedule for delivery at final destination (4 x 6)	GST – IGST/CGST/ SGST payable if contract is awarded
1.	Multipara Monitor as per specification without EtCO2 up gradation		90 Nos.								
1A	EtCO2 up gradation		90 Nos.								
2.	STEMI kit for Hub Hospitals – Portable ECG & other accessories as per specification		36 Nos.								
3.	STEMI kit for Spoke Hospitals – Portable ECG & other monitoring devices SpO2 & NIBP as per specification		160 Nos.								
4.	STEMI kit for Ambulance – Portable ECG & other monitoring devices SpO2 & NIBP as per specification		320 Nos.								

**i. Unit price in (6) (Rs. in words)**

1. Multipara Monitor as per specification with HSN Code/rate of GST.....
- 1A. ETCO2 upgradation as per specification with HSN Code/rate of GST .....
2. STEMI kit for Hub Hospitals – Portable ECG & other accessories as per specification with HSN Code/rate of GST.....
3. STEMI kit for Spoke Hospitals – Portable ECG & other monitoring devices SpO2 & NIBP as per specification with HSN Code/rate of GST.....
4. STEMI kit for Ambulance – Portable ECG & other monitoring devices SpO2 & NIBP as per specification with HSN Code/rate of GST.....

**a) Annual Maintenance Charges (labour only) per year /per unit for 7 years after 3 years free warranty maintenance period**

1. Multipara Monitor as per specification with HSN Code/rate of GST.....



- 1A. ETCO2 upgradation as per specification with HSN Code/rate of GST .....
- 2. STEMI kit for Hub Hospitals – Portable ECG & other accessories as per specification with HSN Code/rate of GST.....
- 3. STEMI kit for Spoke Hospitals – Portable ECG & other monitoring devices SpO2 & NIBP as per specification with HSN Code/rate of GST.....
- 4. STEMI kit for Ambulance – Portable ECG & other monitoring devices SpO2 & NIBP as per specification with HSN Code/rate of GST.....

**b) Annual Maintenance Charges (Comprehensive) for 7 years / per year / per unit after free warranty maintenance period**

- 1. Multipara Monitor as per specification with HSN Code/rate of GST.....
- 1A. ETCO2 up gradation as per specification with HSN Code/rate of GST .....
- 2. STEMI kit for Hub Hospitals – Portable ECG & other accessories as per specification with HSN Code/rate of GST.....
- 3. STEMI kit for Spoke Hospitals – Portable ECG & other monitoring devices SpO2 & NIBP as per specification with HSN Code/rate of GST.....
- 4. STEMI kit for Ambulance – Portable ECG & other monitoring devices SpO2 & NIBP as per specification with HSN Code/rate of GST.....

**Note:**

- (a) In case of discrepancy between unit price and total price, the unit price shall prevail.
- (b) **This price schedule should be placed in separate sealed cover “Cover B”**
- (c) **GST applicable for Annual Maintenance Charges shall be indicated separately.**
- (d) **The bidder should indicate the HSN code of the equipment/ service and applicable GST rates.**
- (e) **The bidder should quote for the prices separately from column 5(a) to 5(e) and should not state “as inclusive”.**

Place : \_\_\_\_\_ Signature of Bidder.....

Date : \_\_\_\_\_ Name .....

Business Address .....