Sr. No.	TECHNICAL SPECIFICATION OF ANESTHESIA WORKSTATION
1	The complete unit should monitor the vital signs and ventilates the patient from infant to adult.
2	Anesthesia Workstation should be complete with an Anesthesia gas delivery system, Circle absorber system, Precision vaporizer for Isoflurane & Sevoflurane, Anesthesia ventilator, and Monitoring system to monitor Anesthetic gases, ECG, EtCO2, Pulse Oximeter, and airway pressure, NIBP, dual IBP, dual temperature.
3	Anesthesia machines should have inbuilt AGM monitoring.
4	Anesthesia Workstation must have an in-built battery backup of 60 to 90 minutes.
5	**Flow management:**
	a) Should be Compact, ergonomic & easy to use.
	b) Multi-color touch screen display of at least 10.4" size, with cascaded flow meters for O2, N2O & Air.
	c) Should have O2 Flush having a flow of 25 to 75 LPM.
	d) Gas regulators shall be of modular design having a display of individual pressure of connected gases.
	e) One no. yoke each for Oxygen & Nitrous Oxide, Separate Pipeline inlet for 2 x Oxygen, 1 x Nitrous oxide, and 1 x Air.
	f) Hypoxic Guard to ensure a minimum of 25% 02 across all O2-N2O mixtures and Oxygen Failure warning.
	g) Fresh gas flow range should be from 0- 10 L/min each for air,N2O & O2 (low flow capable).
	h) In the event of complete power loss and battery failure it shall be possible to manually ventilate at 100% 02 and deliver anesthetic agents.
6	**Breathing system**
	a) Latex free fully autoclavable, easy to dismantle the breathing system
	b) Sensor connections shall be internal to help prevent disconnect,
	c) Sensor should not require daily maintenance.
	d) Bag to vent switch shall be available and begins mechanical ventilation in the ventilator position.
	e) Adjustable pressure limiting valve.

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	f) Compact breathing system should be supplied with a CO2 absorbent canister of capacity more than 800 Gms and should be reusable and autoclavable at 134 degrees.
	g) Fresh gas decoupled/ compensated breathing heating system should be available.
	h) Should have a facility for automatic moisture removal by the heated system.
	i) Optional CO2 bypass facility should be available.
7	**Vaporizers**
	a) New generation Vaporizer must be isolated from the gas flow in the off position and prevent the simultaneous activation of more than one vaporizer.
	b) 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 and Sevoflurane.
	c) The vaporizer should be maintenance-free and should not require any calibration.
8	**Ventilation**
	a) The workstation should have an integrated Anesthesia Ventilator system,
	b) Ventilator should have Volume Control, Pressure Controlled, VC-SIMV, PC-SIMV, and Pressure support ventilation modes.
	c) Ventilator should have a tidal volume compensation capability to adjust for losses due to compression, compliance, and leaks; and compensation for fresh gas flow.
	d) It should have a flow trigger having a range of 1 to 15 LPM and a pressure trigger having a range of PEEP-1 to PEEP-20 cmH2O.
	e) It should have a Pressure Vs Volume & Flow Vs Volume loop which should be simultaneously monitored along with one waveform.
	f) Total volume: 20 ml-1500 ml
	g) Monitoring of Volume, Pressure & Oxygen (Pressure - Peak, Mean, Plateau,PEEP, Volume- Vt, MV, Rate, I:E, Oxygen- FiO2)
	h) Should monitor patient resistance & compliance.
	i) Should have simultaneous waveforms of Pressure Vs Time, Volume Vs Time & Flow Vs Time
	j) Ventilator should have a direct setting of Tip:Ti in order to achieve the

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	desired plateau.
	k) It should be pneumatically driven and electronically controlled and should be low flow capable.
9	**Anesthesia Monitoring Specifications: 15" Touch screen color**
	a) Advanced high-end patient monitor having integrated non-invasive, invasive measurements & features suitable for neonate, pediatrics & adult patients.
	b) Monitor must have bright, highly visible minimum 15" or more color touch screen display.
	c) The control should be from the rotary knob & touch screen.
	d) It should have the capability to display minimum 9 real-time waveforms along with related numerical parameters on a single screen.
	e) Monitors must be able to monitor 5 Lead ECG and SpO2. NIBP, Respiration, dual temp, dual IBP, ETCO2 side stream.
	g) Monitor must have advanced arrhythmia detection including life-threatening arrhythmias as standard feature & must have ST segment analysis with ST trend.
	h) The SpO2 probes must be of Nellcor or Masimo or equivalent for signal extraction technology to monitor SpO2 during poor perfusion.
	i) Must have a minimum of 120 hours of review data including graphical and tabular trends, arrhythmia event recalls alarms, etc.
	k) Should have an inbuilt rechargeable battery for uninterrupted operation for at least 150 minutes.
	l) Should have Hemodynamic, Respiration, Oxygenation, Renal Function & drug dose calculations as standard features.
	n) Monitor should be FDA / CE approved along with ISO13485 certification.
	o) Monitor should be HL7 compliant.
	q) Each monitor is to be supplied with the following essential accessories:
	i. 5/6 Lead ECG electrode cable 01 No each.
	ii. Adult/ Pediatrics/ Neonatal Spo2 probe - 01 No. each
	iii. NIBP cuffs for Adult& Pediatrics/ Pediatrics & Neonates - 2 No. each
	v. Temp Probe - 02 Nos. (Skin &oesophageal/ rectal one each),

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	vi. IBP connection cable — 02 Nos.
	vii. IBP Disposable Pressure Transducers — 5 Nos.

Conditions for tender:

1. All accessories should be from the same Original Equipment Manufacturer for the main unit.
2. Instruments must be ISO certified and a copy should be enclosed. (The ISO Certificate must be issued by any organization accredited by the Bureau of Indian Standard or accredited by the international accrediting forum "IAF" (Certificate to be attached).
3. Should be USA FDA andEuropean CE be approved by 4 digits notified body.
4. Other necessary certifications if any required will be provided by the bidder for the smooth functioning of the machine.
5. Installation process should be performed by O.E.M trained service engineers/ service representatives on OEM letterhead or Service Report within 15 days of supply, with the mandatory provision of providing preventive services visit of OEM trained Service Engineer/ Service Representative quarterly per year till the completion of warranty period (i.e., 20 visits for the first 05 years) & further quarterly visits (04 visits/year) year till the completion of CMC period.
6. The equipment should have a Brand name/ Model Number embossed/etched on the equipment.
7. All the technical specifications in the compliance statement must be supported by Original Literature from the firm/ O.E.M with highlighting Numbering & flagging of all technical certificates.
8. Offered Equipment should have a strong Government Installation base.
9. Offered Equipment should have a Regional Sales Service Centre of the Original Equipment Manufacturer in the region for a 95 % uptime guarantee.
10. For the offered main unit, the essential, optional required consumables'/accessories' shelf life should be declared on the Original Equipment Manufacturer's letterhead.
11. In case of technical snag/failure/breakdown the response time for the inspection should be within 24 hours and repair within 05 days otherwise provide a service machine/ alternate arrangement to be made till the period of recovery of the

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breakdown of the unit, failing which attracts penal action as per the decision of institute/ hospital.

12. For offered equipment the Training of technical staff and users should be performed by Original Equipment Manufacturer trained Service Engineers at the proper designated place- at bidders' cost.
13. Company should quote their latest model and need to provide an affidavit for the same.
14. As a tendering process the Demonstration of the offered Equipment is Mandatory at hospital/institute premises or other designated places at the bidder's cost.
15. The bidder must comply with the General Financial Rules and their modifications if any issued by the Government of India- 2017.
16. Any bidder from a country that shares a land border with India will be eligible to bid in the tender only if the bidder is registered with the Competent Authority (i.e., Registration certificate issued by the Ministry of Commerce and Industry (Department for Promotion of Industry and Internal Trade- DPIIT after October 2020). If any such bidder is not registered with DPIIT they will be liable for technical disqualification.
17. Principal (OEM) must authorize only one agent to be quoted in the bid otherwise multiple quotes through different agents in the same bid will be canceled.
18. The Bidder and its OEM both have to submit a notarized affidavit on the Indian Non-Judicial Stamp Paper of Rs.100/- that the bidder has not quoted the price higher than the current financial year and last financial year supplied to any government Institute/ Organization/ reputed Private Organization. OEM also has to submit that the price quoted by the bidder in the bid is on its behalf and the lowest in the current and last financial year in the country. Therefore, if at any stage it has been found that the supplier and its OEM have quoted lower rates than those quoted in this bid; the Institute (the purchaser) would be given the benefit of lower rates by the Supplier and any excess payment if any, will become immediately payable to the Institute (the purchaser). If such an affidavit is not submitted, the bid will be outrightly rejected. (Part of technical bid).
19. Guarantee / Warranty Period: Separate offers of Comprehensive Maintenance Contract (CMC on main equipment) and Annual Maintenance Contract (AMC on main equipment) for further 5 years after expiry of 5 years of warranty (i.e., 6th, 7th, 8th, 9th and 10th years) in rupees only (and on basis of percentage of price) should be included in a financial bid in the absence of which the offer is liable to be rejected.

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Payment for CMC/AMC shall be made only after the expiry of the warranty of 5 years, in case the Institute (the purchaser) decides for availing of CMC/AMC services. Contract for CMC/AMC shall be decided on expiry of warranty but rates (not more than 5% inclusive of all taxes for 6th to 10th year) will be frozen at the price of an issued purchase order before the release of payment by the Institute (the purchaser). However, the Institute (the purchaser) may decide not to enter into any CMC/AMC contract without assigning any reason for the same, which shall be binding upon the bid.

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