

13-11-2017

Amendment No. 1**Sub: Amendment to the referred tender enquiry****Ref.: Tender Enquiry HITES/PCD/PMSSY-III/18/MGPS/17-18 dated 06-10-2017**

The following changes are being incorporated in the above referred Tender Enquiry Document

SECTION - I
Notice Inviting Tender**- Added Consignee**

Sch No.	Consignee Name	States	Consignee Code	Qty.	EMD (Rs.)
25	GMC - Malda	West Bengal	GMCM	1	8,80,000

- Existing:

Sl. No.	Description	Schedule
v.	Closing date & time for submission of online bids	15.11.2017, 1200 Hrs IST
vi.	Closing date & time for submission of Tender Processing Fee and EMD in physical form**	15.11.2017, 1400 Hrs IST
vii.	Date and Time of opening of online bids	15.11.2017, 1430 Hrs IST

Read as:

Sl. No.	Description	Schedule
v.	Closing date & time for submission of online bids	29.11.2017, 1200 Hrs IST
vi.	Closing date & time for submission of Tender Processing Fee and EMD in physical form**	29.11.2017, 1400 Hrs IST
vii.	Date and Time of opening of online bids	29.11.2017, 1430 Hrs IST

SECTION - VI
List of Requirement

Part II: Required Delivery Schedule:

- **Existing:**

a) For Indigenous goods or for imported goods if supplied from India:

Within 180 days from date of Notification of Award to be delivered, installed and commissioned at consignee site subject to availability of clear 90 days from the date of handing over of installation site by the consignee. The date of delivery will be the date of delivery at consignee site. If the bidder gets work order for more than one schedule, simultaneous deliveries need to be ensured by the bidder/ awardee.

b) For Imported goods directly from foreign:

180 days from the date of opening of L/C. 180 days is inclusive of installation and commissioning subject to availability of clear 90 days from the date of handing over of installation site by the consignee. If the bidder gets work order for more than one schedule, simultaneous deliveries need to be ensured by the bidder/ awardee.

Read as:

For Indigenous or for imported goods if supplied from India or for imported goods directly from foreign:

Supply, Installation and Commissioning to be completed within 180 days from the date of NOA or date of opening of LC or date of approval of layout drawing, whichever is later.

Layout Drawing for approval, valid Performance Security and Proforma Invoice (in case of LC opening) are to be submitted within 30 days from the date of release of NOA.

Part VII: Required Terms of Delivery and Destination.

b) For Imported goods directly from abroad:

- **Added Para:**

Manufacturer/ Supplier/ Indian Subsidiary of OEM/ Authorized Agent of OEM/ Bidder shall be responsible for timely lodgement of Bill of Entry (BOE), customs clearing, local transportation and delivery of all goods to the consignee site . Purchaser being applicant of LC, will be responsible for providing CDEC (if applicable), payment of customs duty in time provided purchaser gets 24 hrs after BOE is assessed and informed for payment.

Section VII
Technical Specification

Tender Page & Para	TENDER SPECIFICATION	READ AS
Page 49 Para 16	The following systems/Items must be from the same principal company/Manufacturer 1 Control Panels & Manifold for O2, N2O & CO2 2 Medical Air Plant 3 Medical Vacuum Plant 4 AGSS Plant 5 Area & Master Alarm 6 All types Outlets	The following systems/Items must be from the same principal company/Manufacturer 1 Control Panels & Manifold for O2, N2O & CO2 2 Medical Air Plant 3 Medical Vacuum Plant 4 AGSS Plant 5 Area & Master Alarm 6 All types Outlets 7 Oxygen flowmeter 8 AVSU 9 Line Isolation Valves 10 High Pressure Tubes
Page 49 Para 1.1	1.1 Fully Automatic Oxygen Control Panel	1.1 Fully Automatic Oxygen Control Panel
Page 49 Para 1.1	The Manifold control panel should be digital/Analogue.	The Manifold control panel should be with digital display
Page 49 Para 1.1	Instruction for changing the cylinders should be clearly identified on the front of the control panel.	Indication for changing the cylinders should be clearly identified on the front of the control panel.
Page 50 Para 1.1	The Control Panel shall include two pressure relief valves, one high pressure approx.200psi and one low pressure approx.75 psi.	The Control Panel shall include two pressure relief valves, one high pressure approx. 200/350 psi and one low pressure approx.75 psi.
Page 50 Para 1.2	1.2 Oxygen Manifold Supply System (without Cylinders)	1.2 Oxygen Manifold Supply System (without Cylinders)
Page 50 Para 1.2	The size of Manifolds should be as mentioned in BOQ of respective Institute and it shall be compatible with Class-D type bulk cylinders. It should be US FDA / European CE Certified with 4 digit notified body number or American ETL/ American UL listed.	The size of Manifolds should be as mentioned in BOQ of respective Institute and it shall be compatible with Class-D type bulk cylinders.
Page 50 Para 1.3	1.3 Emergency Oxygen Manifold (without Cylinders)	1.3 Emergency Oxygen Manifold (without Cylinders)

Tender Page & Para	TENDER SPECIFICATION	READ AS
Page 50 Para 1.3	The size of Manifolds should be as mentioned in BOQ of respective Institute and it shall be compatible with Class-D type bulk cylinders. It should be US FDA / European CE Certified with 4 digit notified body number or American ETL/ American UL listed.	The size of Manifolds should be as mentioned in BOQ of respective Institute and it shall be compatible with Class-D type bulk cylinders.
Page 51 Para 2.1	2.1 Fully Automatic Nitrous Oxide Control Panel	2.1 Fully Automatic Nitrous Oxide Control Panel
Page 51 Para 2.1	All functional components should be enclosed on fire resistant, robust synthetic polymer/SS.	Line Deleted
Page 51 Para 2.1	The Manifold control panel should be digital/ Analogue, fully automatic type and switches from "Bank in Use" to "Reserve bank " without fluctuation in delivery supply line pressure.	The Manifold control panel should be digital , fully automatic type and switches from "Bank in Use" to "Reserve bank " without fluctuation in delivery supply line pressure.
Page 51 Para 2.2	2.2 Nitrous Oxide Manifold (Without Cylinders)	2.2 Nitrous Oxide Manifold (Without Cylinders)
Page 51 Para 2.2	The size of Manifolds should be as mentioned in BOQ of respective Institute and it shall be compatible with Class-D type bulk cylinders. It should be US FDA / European CE Certified with 4 digit notified body number or American ETL/ American UL listed.	Nitrous Oxide Manifold (Without Cylinders) The size of Manifolds should be as mentioned in BOQ of respective Institute and it shall be compatible with Class-D type bulk cylinders.
Page 52 Para 2.3	2.3 Emergency N2O Manifold (Without Cylinders)	2.3 Emergency N2O Manifold (Without Cylinders)
Page 52 Para 2.3	The size of Manifolds should be as mentioned in BOQ of respective Institute and it shall be compatible with Class-D type bulk cylinders. It should be US FDA / European CE Certified with 4 digit notified body number or American ETL/ American UL listed.	The size of Manifolds should be as mentioned in BOQ of respective Institute and it shall be compatible with Class-D type bulk cylinders.

Tender Page & Para	TENDER SPECIFICATION	READ AS
Page 52 Para 3	3. Medical and Surgical Air System (Package Unit)	3. Medical and Surgical Air System (Package Unit) - Tolerance of +/-5% is acceptable on plant flow capacity
Page 53 Para 3.1	Air Compressor Modules	Air Compressor Modules
Page 53 Para 3.1	The duty compressors shall be automatically rotated by the plant control system to ensure even wear. Compressors shall be supplied and installed in such a way after cooler with a quiet running fan to maximize cooling and efficiency. Each desiccant dryer shall be provided with a dew point sensing switch that shall provide an alarm on the plant control panel and central hospital alarm system when the water concentration in the delivered air rises above the limit	The duty compressors shall be automatically rotated by the plant control system to ensure even wear. Compressors shall be supplied and installed. Desiccant dryer shall be provided with a dew point sensing switch that shall provide an alarm on the plant control panel and central hospital alarm system when the water concentration in the delivered air rises above the limit
Page 53	The compressor system should have- 1 Intake filter Check Valve Delivery pipe	The compressor system should have- 1 Intake filter Delivery pipe
Page 53 Para 3.2	3.2 Vertical Air Receiver	3.2 Vertical Air Receiver
Page 53 Para 3.2	Total air receiver capacity shall be at least 50% of the primary plant capacity in 1 minute in terms of free air delivered at normal working pressure. Each air receiver shall be protected by a pressure relief valve, a fusible plug and include a pressure gauge with isolating valve and a drain cock.	Total air receiver capacity shall be at least 50% of the primary plant capacity (capacity as mentioned in the tender) in 1 minute in terms of free air delivered at normal working pressure. Each air receiver shall be protected by a pressure relief valve, a fusible plug and include a pressure gauge with isolating valve and a drain cock.
Page 54 Para 3.4	3.4 System Controls	3.4 System Controls
Page 54 Para 3.4	The “Continuous on Demand” feature will stop the operation of the motors during periods of low or no demand. The control include individual self-protected combination motor controls with short circuit protection,	The “Continuous on Demand” feature will stop the operation of the motors during periods of low or no demand. The control include individual self-protected combination motor controls with short circuit protection, single phase and thermal overload protection, individual control

Tender Page & Para	TENDER SPECIFICATION	READ AS
	single phase and thermal overload protection, individual control circuit transformers with fuseless primary and secondary protection, pressure sensors, temperature switches with reset buttons, and an electronic controller to automatically change the operating sequence of the compressors.	circuit with transformers primary and secondary protection, pressure sensors, temperature switches with reset buttons, and an electronic controller to automatically change the operating sequence of the compressors.
Page 54 Para 4.2	4.2 Vacuum Receiver	4.2 Vacuum Receiver
Page 54 Para 4.2	The vacuum receiver shall be made of rust free corrosion resistant steel and fabricated as per ASME/BS/ISO for a vacuum pressure of 760mmHg. It should include bypass valves, manual drain valves, vacuum gauge. Vacuum reservoir shall have total volume of at least 100 % of plant output in one minute in terms of free air aspired at normal working pressure.	The vacuum receiver shall be made of rust free corrosion resistant steel and fabricated as per ASME/BS/ISO for a vacuum pressure of 760mmHg. It should include bypass valves, manual drain valves, vacuum gauge. Vacuum reservoir shall have total volume of at least 100 % of primary plant output (capacity as mentioned in the tender) in one minute in terms of free air aspired at normal working pressure.
Page 55 Para 4.5	4.5 Accessories	4.5 Accessories
Page 55 Para 4.5	Accessories included for job site installation are inlet and discharge flexible connectors, vibration mounting pads, and source isolation valve, inlet check valve, oil temperature gauge, thermal malfunction switch and vacuum control switch. Flexible connectors on inlet and exhaust of each pump, exhaust tee with union as well as copper tubing with Shutoff- cock for gauge and vacuum switch etc.	Accessories included for job site installation are inlet and discharge flexible connectors, vibration mounting pads, and source isolation valve, inlet check valve, thermal malfunction switch and vacuum control switch. Flexible connectors on inlet and exhaust of each pump, exhaust tee with union as well as copper tubing with Shutoff- cock for gauge/bypass valve and vacuum switch etc.
Page 55 Para 5	5 Ward Vacuum Units	5 Ward Vacuum Units

Tender Page & Para	TENDER SPECIFICATION	READ AS
Page 55 Para 5	<p>5.2. Suction Regulator: Suction regulator should be supplied with a safety jar, including and antibacterial filter and an anti-overflow safety device. Should have wide membrane continuous suction controller</p> <p>5.3 Should have vacuum levels: 0-760 mm of Hg</p> <p>5.6 Must have central adjustment knob with a color coded for 0 to 760 mm of Hg. Should have Polysulfone/polycarbonate 100cc safety jar, autoclavable at 121° C at 5mins, unbreakable, fitted with an anti-overflow safety device and equipped with a plastic antibacterial filter. It should be totally transparent, to ensure perfect sucked liquid visibility.</p>	<p>5.2. Digital Suction Regulator: Suction regulator should be supplied with a safety jar, including and antibacterial filter and an anti-overflow safety device. Should have wide membrane continuous suction controller</p> <p>5.3 Should have vacuum levels: 0-750 mm Hg or more</p> <p>5.6 Must have central adjustment knob with a color coded for 0 to 750 mm Hg or more . Should have Polysulfone/polycarbonate 100cc safety jar, autoclavable at 121° C at 5mins, unbreakable, fitted with an anti-overflow safety device and equipped with antibacterial filter. It should be totally transparent, to ensure perfect sucked liquid visibility.</p>
		<p>Added para: 5A. Low flow ward vacuum unit - Should have vacuum levels: 0-250 mm of Hg +/- 10%</p> <p>Added para in BOQ: 5A. Low flow ward vacuum unit SITC as per specification - 10 nos (All BOQ to be changed accordingly)</p>
Page 56 Para 6	6. Theatre Vacuum unit for OT	6. Theatre Vacuum unit for OT
Page 56 Para 6	<p>6.1 1no. Suction Regulator and 2nos. 1700ml or more polysulfone/polycarbonate collection jar and both to be mounted on a trolley.</p> <p>6.3 Should have vacuum levels : 0-760 mm of Hg</p> <p>6.6 Must have central adjustment knob with a color coded for 0-760 mm of Hg. Should have polysulfone/polycarbonate safety jar, autoclavable at 121° C, unbreakable, fitted with an anti-overflow safety device and equipped with a plastic antibacterial filter.</p>	<p>6.1 1no. Digital Suction Regulator and 2nos. 1500ml or more polysulfone/polycarbonate collection jar and both to be mounted on a trolley.</p> <p>6.3 Should have vacuum levels : 0-750 mm of Hg or more</p> <p>6.6 Must have central adjustment knob with a color coded for 0-750 mm Hg or more. Should have polysulfone/polycarbonate safety jar, autoclavable at 121° C, unbreakable, fitted with an anti-overflow safety device and equipped with antibacterial filter.</p>
Page 56 Para 7	7. AGSS (Anesthetic Gas Scavenging System) Plant -	7. AGSS (Anesthetic Gas Scavenging System) Plant -

Tender Page & Para	TENDER SPECIFICATION	READ AS
Page 56 Para 7	The package should consist of rotary vane vacuum pumps, a control panel, and mounted on a common base frame. AGSS pump: AGSS pump shall operate completely dry permanently lubricated and sealed. Each pump should be completely air cooled and have absolutely no water requirements.	The package should consist of rotary vane/claw type vacuum pumps (Dry/Oil less only) , a control panel, and mounted on a common base frame. AGSS pump: AGSS pump shall operate completely dry . Each pump should be completely air cooled and have absolutely no water requirements. The suitable wiring from OTs to AGSS plant for remote control/suitable reservoir (as applicable) is the responsibility of the bidder.
Page 59 Para 12	12 Line Isolation Valves	12 Line Isolation Valves
Page 59 Para 12	The Lockable line valves must degreased and complete valve with pipe and complies with HTM 02-01/ NFPA 99 C/EN/DIN/ISO 7396-1 standard.	The Lockable line valves must degreased and complete valve with stuffed pipe & fittings, factory tested and complies with HTM 02-01/ NFPA 99 C/EN/DIN/ISO 7396-1 standard.
Page 59 Para 15	15.Horizontal/ Vertical Bed Head Panel	15.Horizontal/ Vertical Bed Head Panel
Page 60 Para 15	Bed space management system with optional equipment rail. With all Equipment Rail mount Accessories. All down drops should be installed at one end preferably & Vertical drop installed at one end should be covered with Aluminium boxing with matching color. Each bed-head unit shall be supplied with electrical and electrical outlets pre-fitted, wired and certified. (Wired up to the distribution box provided with leakage protection & proper earthing arrangements) Note: Gas Outlets quantities are already taken in consideration of quantities of respective outlets in BOQ Facility per unit as under:	It should have one rail for mounting Accessories. Each bed-head unit shall be supplied with electrical and electrical outlets pre-fitted, wired and certified. (Wired up to the distribution box provided with leakage protection & proper earthing arrangements) Note: Gas Outlets quantities are already taken in consideration of quantities of respective outlets in BOQ Should have per unit as under :
Page 60 Para 15	Lamp with flexible LED lighting – 1	Line Deleted

Tender Page & Para	TENDER SPECIFICATION	READ AS
BOQ	15. Bed Head Horizontal/Vertical Wall Panel (Without outlets) as per specification - Qty as per respective BOQ	:15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ (All BOQ to be changed accordingly)
	Area Valve Service Unit & Alarm Panel	Added Para: Note: The bidder may offer combined unit of AVSU & alarm, bidder has to match the quantity of AVSU/Alarm whichever is higher
Page 58 Para 11	Alarm System 11.1- Master Alarm	11.1- Master Alarm (Digital)
Page 58 Para 11	11.2 - Medical Gas Area Alarm The area alarm should have a digital/analogue display of pressures.	11.2 - Medical Gas Area Alarm The area alarm should have a digital display of pressures.
BOQ	Copper pipe 76mm OD x 1.2mm thick	76mm OD x 1.5mm thick (All BOQ to be changed accordingly)
Page 61 Para 19	Interconnection to LMO Tank (Optional Price should be quoted) Price should be quoted per meter basis for inclusive of all installation, material (Copper Pipes, all Valves , fittings, etc), trenches and labour etc. charges as per site condition. The payment will be made on actual meter consumption for interconnection from LMO tank to Gas Manifold room.	Interconnection to LMO Tank (Optional Price should be quoted) Price should be quoted per meter basis for inclusive of all installation, material (Copper Pipes, fittings, etc), trenches and labour etc. charges as per site condition. The payment will be made on actual meter consumption for interconnection from LMO tank to Gas Manifold room. (All BOQ to be changed accordingly and Qty will be 1m instead of LS)
BOQ	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL) - unit- LS , Qty 1	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL) - Unit - m, Qty 1

Tender Page & Para	TENDER SPECIFICATION	READ AS
Para 18	<p>CARBON DIOXIDE SYSTEM (Optional Price should be quoted) Medical CO2 Manifold 2 + 2 Primary & 1+1 Standby with Class-D type Cylinders It should be US FDA / European CE Certified with 4 digit notified body number or American ETL/ American UL listed.</p>	<p>CARBON DIOXIDE SYSTEM (Price should be quoted seperately) The system should consist of medical CO2 Manifold 2 + 2 Primary & 1+1 Standby with Class-D type Cylinders and control panel . Control panel of CO2 should be US FDA / European CE Certified with 4 digit notified body number or American ETL/ American UL listed. Added in BOQ: 10.5 Valve Box - 6 Gas services - 1 no 11.6 Medical gas area alarm - 6 services - 1 no.</p>
		<p>Added Para: Responsibility of Consignee: 1. The institute will provide MGPS plant & manifold room (complete with plastering , painting & flooring) 2. Institute will provide one point electrical, water and drain connection at the plant & manifold room 3. Institute will provide shaft for MGPS riser 4. Institute will provide connecting trench from manifold/plant room to hospital building if available 5. Institute will provide temporary storage for storing of raw materials of MGPS system during installation period and the security of the store is the responsibility of MGPS vendor 6. Institute will provide working electrical power supply for installation to MGPS vendor</p>
		<p>Added para in BOQ: 21g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)</p>

Revised BOQs

1. BOQ MGPS SYTEM - GMC ANANTHAPUR-ANDHRA PRADESH			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	230
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 3000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 4000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	230
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	6

1. BOQ MGPS SYTEM - GMC ANANTHAPUR-ANDHRA PRADESH			
SN.	Item Description	Unit	Qty
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	100
8.2	54mm OD X 1.2mm thick	m	250
8.3	42mm OD X 1.2mm thick	m	1000
8.4	35mm OD X 1.2mm thick	m	1000
8.5	28mm OD X 1 mm thick	m	1100
8.6	22mm OD X 1 mm thick	m	1500
8.7	15mm OD X 1 mm thick	m	3000
8.8	12mm OD X 1 mm thick	m	900
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	240
9.2	Nitrous Oxide outlet with probe	Nos	14
9.3	Medical Air 4 outlet with probe	Nos	65
9.4	Vacuum outlet with probe	Nos	240
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	6
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	8
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	9
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	4
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	8
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	7
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	4
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1

1. BOQ MGPS SYTEM - GMC ANANTHAPUR-ANDHRA PRADESH			
SN.	Item Description	Unit	Qty
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	50
12.2	22 mm ball valve	Nos	40
12.3	28 mm ball valve	Nos	15
12.4	35 mm ball valve	Nos	35
12.5	42 mm ball valve	Nos	25
12.6	54 mm ball valve	Nos	2
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of total Qty 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of total Qty	Nos	40
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

2. BOQ MGPS SYTEM-ASSAM MEDICAL COLLEGE			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	198
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 5000LPM as Primary & 1500 LPM as standby or Total minimum Plant Capacity of 6500LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	198
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	5

2. BOQ MGPS SYTEM-ASSAM MEDICAL COLLEGE			
SN.	Item Description	Unit	Qty
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	50
8.3	42mm OD X 1.2mm thick	m	200
8.4	35mm OD X 1.2mm thick	m	70
8.5	28mm OD X 1 mm thick	m	500
8.6	22mm OD X 1 mm thick	m	1500
8.7	15mm OD X 1 mm thick	m	2000
8.8	12mm OD X 1 mm thick	m	1000
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	320
9.2	Nitrous Oxide outlet with probe	Nos	10
9.3	Medical Air 4 outlet with probe	Nos	112
9.4	Vacuum outlet with probe	Nos	320
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	5
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	9
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	12
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	6
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	8
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	7
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	3
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2

2. BOQ MGPS SYTEM-ASSAM MEDICAL COLLEGE			
SN.	Item Description	Unit	Qty
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	51
12.2	22 mm ball valve	Nos	33
12.3	28 mm ball valve	Nos	6
12.4	35 mm ball valve	Nos	6
12.5	42 mm ball valve	Nos	7
12.6	54 mm ball valve	Nos	6
12.7	76 mm ball valve	Nos	6
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	70
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

3. BOQ MGPS SYSTEM- GUWAHATI MEDICAL COLLEGE			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	150
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 3000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 4000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	150
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	8

3. BOQ MGPS SYSTEM- GUWAHATI MEDICAL COLLEGE			
SN.	Item Description	Unit	Qty
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	100
8.3	42mm OD X 1.2mm thick	m	250
8.4	35mm OD X 1.2mm thick	m	80
8.5	28mm OD X 1 mm thick	m	500
8.6	22mm OD X 1 mm thick	m	2000
8.7	15mm OD X 1 mm thick	m	2500
8.8	12mm OD X 1 mm thick	m	1000
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	255
9.2	Nitrous Oxide outlet with probe	Nos	16
9.3	Medical Air 4 outlet with probe	Nos	90
9.4	Vacuum outlet with probe	Nos	255
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	8
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	7
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	10
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	6
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	2
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	10
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	6
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2

3. BOQ MGPS SYSTEM- GUWAHATI MEDICAL COLLEGE			
SN.	Item Description	Unit	Qty
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	74
12.2	22 mm ball valve	Nos	46
12.3	28 mm ball valve	Nos	1
12.4	35 mm ball valve	Nos	5
12.5	42 mm ball valve	Nos	1
12.6	54 mm ball valve	Nos	5
12.7	76 mm ball valve	Nos	5
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	72
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

4. BOQ MGPS SYSTEM -GMC,DARBHANGA			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	210
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 3000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 4000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	210
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	6

4. BOQ MGPS SYSTEM -GMC,DARBHANGA			
SN.	Item Description	Unit	Qty
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	200
8.3	42mm OD X 1.2mm thick	m	850
8.4	35mm OD X 1.2mm thick	m	50
8.5	28mm OD X 1 mm thick	m	500
8.6	22mm OD X 1 mm thick	m	2500
8.7	15mm OD X 1 mm thick	m	3200
8.8	12mm OD X 1 mm thick	m	1500
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	276
9.2	Nitrous Oxide outlet with probe	Nos	17
9.3	Medical Air 4 outlet with probe	Nos	91
9.4	Vacuum outlet with probe	Nos	276
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	8
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	8
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	7
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	6
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	8
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	7
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	6
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2

4. BOQ MGPS SYSTEM -GMC,DARBHANGA			
SN.	Item Description	Unit	Qty
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	96
12.2	22 mm ball valve	Nos	66
12.3	28 mm ball valve	Nos	6
12.4	35 mm ball valve	Nos	1
12.5	42 mm ball valve	Nos	5
12.6	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	70
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

5. BOQ MGPS SYSTEM -SKMC,MUZAFFARPUR			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	200
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 4000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 5000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 4000LPM as primary and 4000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	200
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	8

5. BOQ MGPS SYSTEM -SKMC,MUZAFFARPUR			
SN.	Item Description	Unit	Qty
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	100
8.3	42mm OD X 1.2mm thick	m	500
8.4	35mm OD X 1.2mm thick	m	350
8.5	28mm OD X 1 mm thick	m	1000
8.6	22mm OD X 1 mm thick	m	1500
8.7	15mm OD X 1 mm thick	m	2800
8.8	12mm OD X 1 mm thick	m	2000
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	310
9.2	Nitrous Oxide outlet with probe	Nos	18
9.3	Medical Air 4 outlet with probe	Nos	100
9.4	Vacuum outlet with probe	Nos	310
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	8
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	30
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	10
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	7
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	13
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	8
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	7
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2

5. BOQ MGPS SYSTEM -SKMC,MUZAFFARPUR			
SN.	Item Description	Unit	Qty
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	120
12.2	22 mm ball valve	Nos	90
12.3	28 mm ball valve	Nos	18
12.4	35 mm ball valve	Nos	1
12.5	42 mm ball valve	Nos	5
12.6	54 mm ball valve	Nos	1
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	80
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

6. BOQ MGPS SYSTEM -PDUMC,RAJKOT			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	180
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 4000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 5000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 4000LPM as primary and 4000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	180
5A	Low flow ward vacuum unit SITC as per specification	Nos	10

6. BOQ MGPS SYSTEM -PDUMC,RAJKOT			
SN.	Item Description	Unit	Qty
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	8
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	100
8.2	54mm OD X 1.2mm thick	m	150
8.3	42mm OD X 1.2mm thick	m	250
8.4	35mm OD X 1.2mm thick	m	20
8.5	28mm OD X 1 mm thick	m	200
8.6	22mm OD X 1 mm thick	m	2000
8.7	15mm OD X 1 mm thick	m	2600
8.8	12mm OD X 1 mm thick	m	600
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	287
9.2	Nitrous Oxide outlet with probe	Nos	17
9.3	Medical Air 4 outlet with probe	Nos	83
9.4	Vacuum outlet with probe	Nos	287
9.5	Medical Air 7 outlet with probe	Nos	3
9.6	AGSS outlet with probe	Nos	8
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	9
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	10
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	6
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	9
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	10
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	6

6. BOQ MGPS SYSTEM -PDUMC,RAJKOT			
SN.	Item Description	Unit	Qty
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	133
12.2	22 mm ball valve	Nos	123
12.3	28 mm ball valve	Nos	11
12.4	35 mm ball valve	Nos	24
12.5	54 mm ball valve	Nos	7
12.6	76 mm ball valve	Nos	7
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	59
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

7. BOQ MGPS SYSTEM-PMCH, DHANBAD			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	162
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 3000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 4000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	162
5A	Low flow ward vacuum unit SITC as per specification	Nos	10

7. BOQ MGPS SYSTEM-PMCH, DHANBAD			
SN.	Item Description	Unit	Qty
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	8
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	20
8.2	54mm OD X 1.2mm thick	m	100
8.3	42mm OD X 1.2mm thick	m	200
8.4	35mm OD X 1.2mm thick	m	100
8.5	28mm OD X 1 mm thick	m	400
8.6	22mm OD X 1 mm thick	m	1500
8.7	15mm OD X 1 mm thick	m	2000
8.8	12mm OD X 1 mm thick	m	1000
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	258
9.2	Nitrous Oxide outlet with probe	Nos	16
9.3	Medical Air 4 outlet with probe	Nos	78
9.4	Vacuum outlet with probe	Nos	258
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	8
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	4
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	7
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	6
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	4
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	7
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	6

7. BOQ MGPS SYSTEM-PMCH, DHANBAD			
SN.	Item Description	Unit	Qty
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	85
12.2	22 mm ball valve	Nos	61
12.3	28 mm ball valve	Nos	5
12.4	35 mm ball valve	Nos	1
12.5	42 mm ball valve	Nos	3
12.6	54 mm ball valve	Nos	1
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	62
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

8. BOQ MGPS SYSTEM-KIMC,HUBLI			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 3000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 4000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	150
5A	Low flow ward vacuum unit SITC as per specification	Nos	10

8. BOQ MGPS SYSTEM-KIMC,HUBLI			
SN.	Item Description	Unit	Qty
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	6
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	50
8.3	42mm OD X 1.2mm thick	m	200
8.4	35mm OD X 1.2mm thick	m	200
8.5	28mm OD X 1 mm thick	m	500
8.6	22mm OD X 1 mm thick	m	1500
8.7	15mm OD X 1 mm thick	m	3000
8.8	12mm OD X 1 mm thick	m	1200
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	240
9.2	Nitrous Oxide outlet with probe	Nos	12
9.3	Medical Air 4 outlet with probe	Nos	70
9.4	Vacuum outlet with probe	Nos	240
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	6
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	11
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	8
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	4
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	11
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	3
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	4

8. BOQ MGPS SYSTEM-KIMC,HUBLI			
SN.	Item Description	Unit	Qty
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	80
12.2	22 mm ball valve	Nos	72
12.3	28 mm ball valve	Nos	6
12.4	35 mm ball valve	Nos	5
12.5	42 mm ball valve	Nos	1
12.6	76 mm ball valve	Nos	4
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	55
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

9. BOQ MGPS SYSTEM-GMC,KOZHIKODE			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	210
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 3000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 4000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	210
5A	Low flow ward vacuum unit SITC as per specification	Nos	10

9. BOQ MGPS SYSTEM-GMC,KOZHICODE			
SN.	Item Description	Unit	Qty
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	6
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	50
8.3	42mm OD X 1.2mm thick	m	500
8.4	35mm OD X 1.2mm thick	m	100
8.5	28mm OD X 1 mm thick	m	500
8.6	22mm OD X 1 mm thick	m	1500
8.7	15mm OD X 1 mm thick	m	3000
8.8	12mm OD X 1 mm thick	m	2000
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	300
9.2	Nitrous Oxide outlet with probe	Nos	20
9.3	Medical Air 4 outlet with probe	Nos	90
9.4	Vacuum outlet with probe	Nos	300
9.5	Medical Air 7 outlet with probe	Nos	6
9.6	AGSS outlet with probe	Nos	6
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	12
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	14
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	4
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	12
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	13
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	4

9. BOQ MGPS SYSTEM-GMC,KOZHICODE			
SN.	Item Description	Unit	Qty
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	120
12.2	22 mm ball valve	Nos	52
12.3	28 mm ball valve	Nos	17
12.4	35 mm ball valve	Nos	2
12.5	42 mm ball valve	Nos	17
12.6	54 mm ball valve	Nos	1
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	70
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

10. BOQ MGPS SYSTEM-GTDMC,ALAPPUZHA			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	230
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 3000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 4000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	230
5A	Low flow ward vacuum unit SITC as per specification	Nos	10

10. BOQ MGPS SYSTEM-GTDMC,ALAPPUZHA			
SN.	Item Description	Unit	Qty
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	8
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	15
8.3	42mm OD X 1.2mm thick	m	60
8.4	35mm OD X 1.2mm thick	m	1500
8.5	28mm OD X 1 mm thick	m	650
8.6	22mm OD X 1 mm thick	m	1650
8.7	15mm OD X 1 mm thick	m	3000
8.8	12mm OD X 1 mm thick	m	2000
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	290
9.2	Nitrous Oxide outlet with probe	Nos	18
9.3	Medical Air 4 outlet with probe	Nos	90
9.4	Vacuum outlet with probe	Nos	290
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	8
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	9
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	11
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	6
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	9
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	11
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	6

10. BOQ MGPS SYSTEM-GTDMC,ALAPPUZHA			
SN.	Item Description	Unit	Qty
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	120
12.2	22 mm ball valve	Nos	50
12.3	28 mm ball valve	Nos	8
12.4	35 mm ball valve	Nos	30
12.5	42 mm ball valve	Nos	1
12.6	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	58
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

11. BOQ MGPS SYSTEM-GRMC,GWALIOR			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	178
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 2000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 3000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	178
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	6

11. BOQ MGPS SYSTEM-GRMC,GWALIOR			
SN.	Item Description	Unit	Qty
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	200
8.3	42mm OD X 1.2mm thick	m	850
8.4	35mm OD X 1.2mm thick	m	50
8.5	28mm OD X 1 mm thick	m	500
8.6	22mm OD X 1 mm thick	m	2500
8.7	15mm OD X 1 mm thick	m	3200
8.8	12mm OD X 1 mm thick	m	1500
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	258
9.2	Nitrous Oxide outlet with probe	Nos	12
9.3	Medical Air 4 outlet with probe	Nos	61
9.4	Vacuum outlet with probe	Nos	258
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	6
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	6
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	5
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	6
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	1
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	7
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	5
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	6
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	1

11. BOQ MGPS SYSTEM-GRMC,GWALIOR			
SN.	Item Description	Unit	Qty
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	86
12.2	22 mm ball valve	Nos	64
12.3	28 mm ball valve	Nos	3
12.4	35 mm ball valve	Nos	5
12.5	42 mm ball valve	Nos	2
12.6	54 mm ball valve	Nos	5
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	60
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

12. BOQ MGPS SYSTEM-GMC, AKOLA			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	250
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 7000LPM as Primary & 2000 LPM as standby or Total minimum Plant Capacity of 9000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 4000LPM as primary and 4000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	250
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	7

12. BOQ MGPS SYSTEM-GMC, AKOLA			
SN.	Item Description	Unit	Qty
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	100
8.2	76mm OD X 1.2mm thick	m	100
8.3	54mm OD X 1.2mm thick	m	50
8.4	42mm OD X 1.2mm thick	m	500
8.5	35mm OD X 1.2mm thick	m	500
8.6	28mm OD X 1 mm thick	m	1800
8.7	22mm OD X 1 mm thick	m	1800
8.8	15mm OD X 1 mm thick	m	3500
8.9	12mm OD X 1 mm thick	m	2000
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	470
9.2	Nitrous Oxide outlet with probe	Nos	14
9.3	Medical Air 4 outlet with probe	Nos	210
9.4	Vacuum outlet with probe	Nos	470
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	7
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	2
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	12
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	5
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	7
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	11
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	5

12. BOQ MGPS SYSTEM-GMC, AKOLA			
SN.	Item Description	Unit	Qty
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	106
12.2	22 mm ball valve	Nos	65
12.3	28 mm ball valve	Nos	34
12.4	35 mm ball valve	Nos	6
12.5	42 mm ball valve	Nos	5
12.6	54 mm ball valve	Nos	1
12.7	76 mm ball valve	Nos	1
12.8	108 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	194
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1

12. BOQ MGPS SYSTEM-GMC, AKOLA			
SN.	Item Description	Unit	Qty
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

13. BOQ MGPS SYSTEM-SVNGMC,YAVATMALA			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	250
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 7000LPM as Primary & 2000 LPM as standby or Total minimum Plant Capacity of 9000LPM and as per specification.	Nos	1

13. BOQ MGPS SYSTEM-SVNGMC,YAVATMALA			
SN.	Item Description	Unit	Qty
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 4000LPM as primary and 4000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	250
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	7
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	100
8.2	76mm OD X 1.2mm thick	m	100
8.3	54mm OD X 1.2mm thick	m	50
8.4	42mm OD X 1.2mm thick	m	500
8.5	35mm OD X 1.2mm thick	m	500
8.6	28mm OD X 1 mm thick	m	1800
8.7	22mm OD X 1 mm thick	m	1800
8.8	15mm OD X 1 mm thick	m	3500
8.9	12mm OD X 1 mm thick	m	2000
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	470
9.2	Nitrous Oxide outlet with probe	Nos	14
9.3	Medical Air 4 outlet with probe	Nos	210
9.4	Vacuum outlet with probe	Nos	470
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	7
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	2
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	12
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	5
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2

13. BOQ MGPS SYSTEM-SVNGMC,YAVATMALA			
SN.	Item Description	Unit	Qty
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	7
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	11
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	5
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	106
12.2	22 mm ball valve	Nos	65
12.3	28 mm ball valve	Nos	34
12.4	35 mm ball valve	Nos	6
12.5	42 mm ball valve	Nos	5
12.6	54 mm ball valve	Nos	1
12.7	76 mm ball valve	Nos	1
12.8	108 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	194
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		

13. BOQ MGPS SYSTEM-SVNGMC,YAVATMALA			
SN.	Item Description	Unit	Qty
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

14. BOQ MGPS SYSTEM-GMC,AURANGABAD			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	175
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1

14. BOQ MGPS SYSTEM-GMC,AURANGABAD			
SN.	Item Description	Unit	Qty
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 3000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 4000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	175
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	6
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	100
8.3	42mm OD X 1.2mm thick	m	750
8.4	35mm OD X 1.2mm thick	m	50
8.5	28mm OD X 1 mm thick	m	500
8.6	22mm OD X 1 mm thick	m	2000
8.7	15mm OD X 1 mm thick	m	2500
8.8	12mm OD X 1 mm thick	m	1200
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	275
9.2	Nitrous Oxide outlet with probe	Nos	12
9.3	Medical Air 4 outlet with probe	Nos	90
9.4	Vacuum outlet with probe	Nos	275
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	6
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		

14. BOQ MGPS SYSTEM-GMC,AURANGABAD			
SN.	Item Description	Unit	Qty
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	10
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	8
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	4
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	10
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	8
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	4
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	61
12.2	22 mm ball valve	Nos	41
12.3	28 mm ball valve	Nos	3
12.4	35 mm ball valve	Nos	5
12.5	42 mm ball valve	Nos	2
12.6	54 mm ball valve	Nos	5
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	75
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1

14. BOQ MGPS SYSTEM-GMC,AURANGABAD			
SN.	Item Description	Unit	Qty
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

15. BOQ MGPS SYSTEM-GMC,LATUR			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	185
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1

15. BOQ MGPS SYSTEM-GMC,LATUR			
SN.	Item Description	Unit	Qty
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 5000LPM as Primary & 1500 LPM as standby or Total minimum Plant Capacity of 6500LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	185
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	12
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	100
8.3	42mm OD X 1.2mm thick	m	250
8.4	35mm OD X 1.2mm thick	m	80
8.5	28mm OD X 1 mm thick	m	500
8.6	22mm OD X 1 mm thick	m	2000
8.7	15mm OD X 1 mm thick	m	2500
8.8	12mm OD X 1 mm thick	m	1000
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	300
9.2	Nitrous Oxide outlet with probe	Nos	12
9.3	Medical Air 4 outlet with probe	Nos	107
9.4	Vacuum outlet with probe	Nos	300
9.5	Medical Air 7 outlet with probe	Nos	2

15. BOQ MGPS SYSTEM-GMC,LATUR			
SN.	Item Description	Unit	Qty
9.6	AGSS outlet with probe	Nos	6
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	8
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	11
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	5
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	1
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	4
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	11
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	5
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	1
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	71
12.2	22 mm ball valve	Nos	46
12.3	28 mm ball valve	Nos	1
12.4	35 mm ball valve	Nos	5
12.5	42 mm ball valve	Nos	1
12.6	54 mm ball valve	Nos	5
12.7	76 mm ball valve	Nos	5
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	95
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1

15. BOQ MGPS SYSTEM-GMC,LATUR			
SN.	Item Description	Unit	Qty
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

16. BOQ MGPS SYSTEM-VSSMC,BURLA			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	200
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1

16. BOQ MGPS SYSTEM-VSSMC,BURLA			
SN.	Item Description	Unit	Qty
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 5000LPM as Primary & 1500 LPM as standby or Total minimum Plant Capacity of 6500LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	200
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	12
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	100
8.3	42mm OD X 1.2mm thick	m	600
8.4	35mm OD X 1.2mm thick	m	120
8.5	28mm OD X 1 mm thick	m	750
8.6	22mm OD X 1 mm thick	m	2300
8.7	15mm OD X 1 mm thick	m	2750
8.8	12mm OD X 1 mm thick	m	1200
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	316
9.2	Nitrous Oxide outlet with probe	Nos	20

16. BOQ MGPS SYSTEM-VSSMC,BURLA			
SN.	Item Description	Unit	Qty
9.3	Medical Air 4 outlet with probe	Nos	104
9.4	Vacuum outlet with probe	Nos	316
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	10
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	7
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	10
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	8
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	7
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	10
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	8
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	92
12.2	22 mm ball valve	Nos	59
12.3	28 mm ball valve	Nos	1
12.4	35 mm ball valve	Nos	5
12.5	42 mm ball valve	Nos	1
12.6	54 mm ball valve	Nos	5
12.7	76 mm ball valve	Nos	5
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	86

16. BOQ MGPS SYSTEM-VSSMC,BURLA			
SN.	Item Description	Unit	Qty
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

17. BOQ MGPS SYSTEM-GMC,PATIALA			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	180
2	Nitrous Oxide (N2O) System		

17. BOQ MGPS SYSTEM-GMC,PATIALA			
SN.	Item Description	Unit	Qty
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 4000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 5000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	180
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	3
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	100
8.2	54mm OD X 1.2mm thick	m	150
8.3	42mm OD X 1.2mm thick	m	250
8.4	35mm OD X 1.2mm thick	m	50
8.5	28mm OD X 1 mm thick	m	800
8.6	22mm OD X 1 mm thick	m	2000
8.7	15mm OD X 1 mm thick	m	2500
8.8	12mm OD X 1 mm thick	m	1000

17. BOQ MGPS SYSTEM-GMC,PATIALA			
SN.	Item Description	Unit	Qty
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	268
9.2	Nitrous Oxide outlet with probe	Nos	6
9.3	Medical Air 4 outlet with probe	Nos	82
9.4	Vacuum outlet with probe	Nos	268
9.5	Medical Air 7 outlet with probe	Nos	1
9.6	AGSS outlet with probe	Nos	3
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	5
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	6
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	2
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	1
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	5
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	6
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	2
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	1
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	70
12.2	22 mm ball valve	Nos	64
12.3	28 mm ball valve	Nos	5
12.4	35 mm ball valve	Nos	1
12.5	42 mm ball valve	Nos	5
12.6	54 mm ball valve	Nos	2
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20

17. BOQ MGPS SYSTEM-GMC,PATIALA			
SN.	Item Description	Unit	Qty
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	75
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

18. BOQ MGPS SYSTEM-RNTMC,UDAIPUR			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1

18. BOQ MGPS SYSTEM-RNTMC,UDAIPUR			
SN.	Item Description	Unit	Qty
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	195
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 5000LPM as Primary & 1500 LPM as standby or Total minimum Plant Capacity of 6500LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	195
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	6
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	150
8.3	42mm OD X 1.2mm thick	m	650
8.4	35mm OD X 1.2mm thick	m	50
8.5	28mm OD X 1 mm thick	m	500
8.6	22mm OD X 1 mm thick	m	2000

18. BOQ MGPS SYSTEM-RNTMC,UDAIPUR			
SN.	Item Description	Unit	Qty
8.7	15mm OD X 1 mm thick	m	2750
8.8	12mm OD X 1 mm thick	m	1200
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	316
9.2	Nitrous Oxide outlet with probe	Nos	12
9.3	Medical Air 4 outlet with probe	Nos	113
9.4	Vacuum outlet with probe	Nos	316
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	6
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	8
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	13
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	5
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	1
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	5
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	13
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	5
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	1
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	75
12.2	22 mm ball valve	Nos	49
12.3	28 mm ball valve	Nos	1
12.4	35 mm ball valve	Nos	5
12.5	42 mm ball valve	Nos	1
12.6	54 mm ball valve	Nos	5
12.7	76 mm ball valve	Nos	5

18. BOQ MGPS SYSTEM-RNTMC,UDAIPUR			
SN.	Item Description	Unit	Qty
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	101
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

19. BOQ MGPS SYSTEM-GMC,WARANGAL			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1

19. BOQ MGPS SYSTEM-GMC,WARANGAL			
SN.	Item Description	Unit	Qty
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	170
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 3000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 4000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	170
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	8
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	15
8.3	42mm OD X 1.2mm thick	m	550

19. BOQ MGPS SYSTEM-GMC,WARANGAL			
SN.	Item Description	Unit	Qty
8.4	35mm OD X 1.2mm thick	m	30
8.5	28mm OD X 1 mm thick	m	2000
8.6	22mm OD X 1 mm thick	m	2500
8.7	15mm OD X 1 mm thick	m	3500
8.8	12mm OD X 1 mm thick	m	1200
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	250
9.2	Nitrous Oxide outlet with probe	Nos	16
9.3	Medical Air 4 outlet with probe	Nos	73
9.4	Vacuum outlet with probe	Nos	2
9.5	Medical Air 7 outlet with probe	Nos	250
9.6	AGSS outlet with probe	Nos	8
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	12
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	3
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	6
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	12
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	3
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	6
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	50
12.2	22 mm ball valve	Nos	43
12.3	28 mm ball valve	Nos	8
12.4	35 mm ball valve	Nos	6

19. BOQ MGPS SYSTEM-GMC,WARANGAL			
SN.	Item Description	Unit	Qty
12.5	42 mm ball valve	Nos	4
12.6	54 mm ball valve	Nos	6
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	57
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

20. BOQ MGPS SYSTEM-RGIMS,ADILABAD			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1

20. BOQ MGPS SYSTEM-RGIMS,ADILABAD			
SN.	Item Description	Unit	Qty
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	250
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 3000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 4000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	250
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	8
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		

20. BOQ MGPS SYSTEM-RGIMS,ADILABAD			
SN.	Item Description	Unit	Qty
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	50
8.3	42mm OD X 1.2mm thick	m	200
8.4	35mm OD X 1.2mm thick	m	500
8.5	28mm OD X 1 mm thick	m	1500
8.6	22mm OD X 1 mm thick	m	1500
8.7	15mm OD X 1 mm thick	m	3200
8.8	12mm OD X 1 mm thick	m	1500
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	245
9.2	Nitrous Oxide outlet with probe	Nos	16
9.3	Medical Air 4 outlet with probe	Nos	66
9.4	Vacuum outlet with probe	Nos	245
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	8
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	9
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	9
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	6
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	8
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	4
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	6
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	55

20. BOQ MGPS SYSTEM-RGIMS,ADILABAD			
SN.	Item Description	Unit	Qty
12.2	22 mm ball valve	Nos	58
12.3	28 mm ball valve	Nos	16
12.4	35 mm ball valve	Nos	6
12.5	42 mm ball valve	Nos	3
12.6	54 mm ball valve	Nos	1
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	50
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

21. BOQ MGPS SYSTEM-GMC,AGARTALA			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	120
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 2000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 3000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	120
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	4

21. BOQ MGPS SYSTEM-GMC,AGARTALA			
SN.	Item Description	Unit	Qty
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	120
8.3	42mm OD X 1.2mm thick	m	250
8.4	35mm OD X 1.2mm thick	m	50
8.5	28mm OD X 1 mm thick	m	500
8.6	22mm OD X 1 mm thick	m	1800
8.7	15mm OD X 1 mm thick	m	2000
8.8	12mm OD X 1 mm thick	m	650
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	170
9.2	Nitrous Oxide outlet with probe	Nos	10
9.3	Medical Air 4 outlet with probe	Nos	40
9.4	Vacuum outlet with probe	Nos	170
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	4
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	8
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	5
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	3
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	1
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	8
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	3
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	3
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	1

21. BOQ MGPS SYSTEM-GMC,AGARTALA			
SN.	Item Description	Unit	Qty
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	50
12.2	22 mm ball valve	Nos	35
12.3	28 mm ball valve	Nos	4
12.4	35 mm ball valve	Nos	1
12.5	42 mm ball valve	Nos	5
12.6	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	32
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

22. BOQ MGPS SYSTEM-GMC,GORAKHPUR			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	150
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 3000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 4000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 2000LPM as primary and 2000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	150
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	7

22. BOQ MGPS SYSTEM-GMC,GORAKHPUR			
SN.	Item Description	Unit	Qty
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	50
8.3	42mm OD X 1.2mm thick	m	200
8.4	35mm OD X 1.2mm thick	m	100
8.5	28mm OD X 1 mm thick	m	750
8.6	22mm OD X 1 mm thick	m	750
8.7	15mm OD X 1 mm thick	m	2500
8.8	12mm OD X 1 mm thick	m	1200
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	220
9.2	Nitrous Oxide outlet with probe	Nos	16
9.3	Medical Air 4 outlet with probe	Nos	72
9.4	Vacuum outlet with probe	Nos	2
9.5	Medical Air 7 outlet with probe	Nos	220
9.6	AGSS outlet with probe	Nos	7
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	4
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	4
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	5
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	4
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	4
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	5
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2

22. BOQ MGPS SYSTEM-GMC,GORAKHPUR			
SN.	Item Description	Unit	Qty
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	43
12.2	22 mm ball valve	Nos	17
12.3	28 mm ball valve	Nos	9
12.4	35 mm ball valve	Nos	3
12.5	42 mm ball valve	Nos	3
12.6	54 mm ball valve	Nos	1
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	41
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

23. BOQ MGPS SYSTEM-NBMC,DARJEELING			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	200
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 4000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 5000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	200
5A	Low flow ward vacuum unit SITC as per specification	Nos	10
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	7

23. BOQ MGPS SYSTEM-NBMC,DARJEELING			
SN.	Item Description	Unit	Qty
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	200
8.3	42mm OD X 1.2mm thick	m	650
8.4	35mm OD X 1.2mm thick	m	50
8.5	28mm OD X 1 mm thick	m	500
8.6	22mm OD X 1 mm thick	m	2200
8.7	15mm OD X 1 mm thick	m	2800
8.8	12mm OD X 1 mm thick	m	1500
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	325
9.2	Nitrous Oxide outlet with probe	Nos	14
9.3	Medical Air 4 outlet with probe	Nos	111
9.4	Vacuum outlet with probe	Nos	325
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	7
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	10
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	9
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	5
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	2
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	10
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	9
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	5
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	2

23. BOQ MGPS SYSTEM-NBMC,DARJEELING			
SN.	Item Description	Unit	Qty
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	76
12.2	22 mm ball valve	Nos	49
12.3	28 mm ball valve	Nos	3
12.4	35 mm ball valve	Nos	5
12.5	42 mm ball valve	Nos	2
12.6	54 mm ball valve	Nos	5
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	95
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

24. BOQ MGPS SYSTEM-BSMC,BANKURA			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	185
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 5000LPM as Primary & 1500 LPM as standby or Total minimum Plant Capacity of 6500LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 3000LPM as primary and 3000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	185
5A	Low flow ward vacuum unit SITC as per specification	Nos	10

24. BOQ MGPS SYSTEM-BSMC,BANKURA			
SN.	Item Description	Unit	Qty
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	7
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	76mm OD x 1.5mm thick	m	50
8.2	54mm OD X 1.2mm thick	m	200
8.3	42mm OD X 1.2mm thick	m	100
8.4	35mm OD X 1.2mm thick	m	50
8.5	28mm OD X 1 mm thick	m	800
8.6	22mm OD X 1 mm thick	m	2000
8.7	15mm OD X 1 mm thick	m	3800
8.8	12mm OD X 1 mm thick	m	1500
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	320
9.2	Nitrous Oxide outlet with probe	Nos	14
9.3	Medical Air 4 outlet with probe	Nos	122
9.4	Vacuum outlet with probe	Nos	2
9.5	Medical Air 7 outlet with probe	Nos	320
9.6	AGSS outlet with probe	Nos	6
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	4
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	13
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	5
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	1
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	4
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	13
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	5

24. BOQ MGPS SYSTEM-BSMC,BANKURA			
SN.	Item Description	Unit	Qty
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	1
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	68
12.2	22 mm ball valve	Nos	38
12.3	28 mm ball valve	Nos	5
12.4	35 mm ball valve	Nos	1
12.5	42 mm ball valve	Nos	5
12.6	54 mm ball valve	Nos	1
12.7	76 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	105
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

25. GMC - MALDA			
SN.	Item Description	Unit	Qty
1	Oxygen Supply System		
1.1	Fully Automatic Oxygen Control System : Supply, Installation testing and commissioning of Fully Automatic Oxygen Control System. As per specification	Nos	1
1.2	Oxygen Manifold (2x16) : Supply, Installation, testing and commissioning of (2x16 size) class D cylinder Oxygen Supply System. As per specification	Nos	1
1.3	Emergency Oxygen Supply System : Supply, Installation, testing and commissioning of (2x5 size) class D cylinder Emergency Oxygen Supply System. As per specification	Nos	1
1.4	Oxygen Flow meter with Humidifier Bottle: Supply, installation, testing and commissioning of oxygen flow meter with humidifier bottle. As per specification	Nos	224
2	Nitrous Oxide (N2O) System		
2.1	Fully Automatic Manifold Control Panel for Nitrous Oxide: Supply, installation testing and commission of fully automatic control panel for Nitrous Oxide. As per specification	Nos	1
2.2	Nitrous Oxide Manifold System, (2x5 size): Supply, installation, testing and commissioning of (2x5 size) Nitrous Oxide Manifold system .As per specification	Nos	1
2.3	Emergency Nitrous Oxide Manifold System, 2x2 size: Supply, installation, testing and commissioning of (2x2 size) cylinder Emergency Nitrous Oxide supply System .As per specification	Nos	1
3	Medical Air Plant (Package Unit) including electrical control panel: Supply, Installation, testing and commissioning medical air plant having a minimum capacity of 4000LPM as Primary & 1000 LPM as standby or Total minimum Plant Capacity of 5000LPM and as per specification.	Nos	1
4	Medical Vacuum Plant (Package unit): Supply, Installation, testing and commissioning of Rotary Vane type medical vacuum plant having a minimum capacity of 4000LPM as primary and 4000 LPM as standby and as per specification	Nos	1
5	Ward Vacuum Unit: Supply, installation, testing and commissioning of Ward Vacuum Unit as per specification.	Nos	224
5A	Low flow ward vacuum unit SITC as per specification	Nos	10

25. GMC - MALDA			
SN.	Item Description	Unit	Qty
6	Theater Vaccum Unit for Operation Theaters: Supply, installation, testing and commissioning of Theater Vacuum Unit as specification.	Nos	10
7	Duplex AGSS System: Supply installation and commissioning of Duplex AGSS system. As per specification	Nos	1
8	Copper Pipes		
	Solid drawn, seamless, deoxidised, non- arsenical, half hard, tempered and degreased copper pipes as per specification.		
8.1	108mm OD X 1.5mm thick	m	70
8.2	76mm OD X 1.2mm thick	m	100
8.3	54mm OD X 1.2mm thick	m	200
8.4	42mm OD X 1.2mm thick	m	450
8.5	35mm OD X 1.2mm thick	m	400
8.6	28mm OD X 1 mm thick	m	350
8.7	22mm OD X 1 mm thick	m	2000
8.8	15mm OD X 1 mm thick	m	3500
8.9	12mm OD X 1 mm thick	m	1200
9	Gas Outlet Points/ Terminal Units with probe: Supply,Installation, testing and commissioning of Gas outlet points for Oxygen, Nitrous Oxide, Medical Air 4 Bar , Vacuum, CO2 and AGSS as per specification		
9.1	Oxygen outlet with probe	Nos	324
9.2	Nitrous Oxide outlet with probe	Nos	20
9.3	Medical Air 4 outlet with probe	Nos	86
9.4	Vacuum outlet with probe	Nos	324
9.5	Medical Air 7 outlet with probe	Nos	2
9.6	AGSS outlet with probe	Nos	8
10	AREA VALVE BOX (WITHOUT VALVES): Supply,Installation, testing and commissioning of Area Valve Boxes. as per specification		
10.1	Valve Box - 2 Gas Service with NIST Connection	Nos	9
10.2	Valve Box - 3 Gas Service with NIST Connection	Nos	5
10.3	Valve Box - 4 Gas Service with NIST Connection	Nos	4
10.4	Valve Box - 5 Gas Service with NIST Connection	Nos	8
10.5	Valve Box - 6 Gas services	No	1
11	MEDICAL GAS ALARM PANEL: Supply, Installation, testing and commissioning of Medical Gas Alarm Panel.as per specification		
11.1	Medical Gas Area Alarm for 2 services (Oxygen and MA4 bar)	Nos	8
11.2	Medical Gas Area Alarm for 3 services (Oxygen, MA4 bar and Vacuum)	Nos	6

25. GMC - MALDA			
SN.	Item Description	Unit	Qty
11.3	Medical Gas Area Alarm 4 services (Oxygen, N2O, MA4 bar , N2O,and Vacuum)	Nos	2
11.4	Medical Gas Area Alarm 5 services (Oxygen, MA4 bar , Vacuum,N2O & SA7)	Nos	8
11.5	Master Alarm Panel	Nos	1
11.6	Medical gas area alarm - 6 services	No	1
12	LINE ISOLATION VALVES: Supply, Installation, testing and commissioning of Line Isolation Valves as per specification		
12.1	15 mm ball valve	Nos	61
12.2	22 mm ball valve	Nos	28
12.3	28 mm ball valve	Nos	1
12.4	35 mm ball valve	Nos	6
12.5	42 mm ball valve	Nos	9
12.6	54 mm ball valve	Nos	1
12.7	76 mm ball valve	Nos	6
12.8	108 mm ball valve	Nos	1
13	Supply of O2 cylinders-Class D cylinders as per specification	Nos	60
14	Supply of N2O cylinders-Class D cylinders as per specification	Nos	20
15	15A. Bed Head Horizontal (Without outlets) as per specification - 50% of Qty as per respective BOQ 15B. Vertical Wall Panel (Without outlets) as per specification - 50% of Qty as per respective BOQ	Nos	57
16	Supply, installation, testing and commissioning of Medical gas hose assemblies as per standard followed as per specification	m	200
17	Electric wiring inside the gas manifold and plant room including electrical panel for plant & Manifold rooms	Ls	1
18	CO2 Manifold with control panel (with cylinder) as per specification (OPTIONAL)	Nos	1
19	Interconnection to LMO as per specification. per meter rate should be quoted (OPTIONAL)	m	1
20	Site Modification as per Specification	Ls	1
21	Extra Works as per specification		
	a Construction of Operator Room and Toilet (OPTIONAL)	Ls	1
	b. Trench Over Head/Under Ground	m	20
	c. 9":Brick Wall	Sq Ft	500
	d. Demolition of brick	Cu. Ft	200
	e. Air Conditioning 10TR	Ls	1

25. GMC - MALDA			
SN.	Item Description	Unit	Qty
	f. Platform Construction	Ls	1
	g. Cutting and re-installation of unopenable false ceiling & repairing - 200 sq ft (It will be taken for ranking)	Sq Ft	200

Section – IX
Qualification Criteria

- Existing:

3. Minimum Work of Similar Nature: Eligible bidders should have successfully executed globally in last five years from the date of tender opening, similar turnkey project of value, equivalent to or exceeding 50% of the estimated tender value. Out of total 50% value, at least one single order for similar work of minimum 10% value should have been executed globally. The details of requirement of MWSN (minimum work of similar nature) for different schedules, multiple schedules are mentioned in Eligibility Table. The value of the executed works shall be brought to the current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to last date of receipt of tenders.

Example/Clarification: Similar Project means that MOT meeting major technical parameters (viz. those items required for submission of Manufacturer's Authorization as per Section XIV-A & XIV-B as mentioned in the table at para 7 below) of the current BOQ floated in the tender enquiry document.

- Read as:

3. Minimum Work of Similar Nature: Eligible bidders should have successfully executed globally in last **seven (7) years** from the date of tender opening, similar turnkey project of value, equivalent to or exceeding 50% of the estimated tender value. Out of total 50% value, at least one single order for similar work of minimum 10% value should have been executed globally. The details of requirement of MWSN (minimum work of similar nature) for different schedules, multiple schedules are mentioned in Eligibility Table. The value of the executed works shall be brought to the current costing level by enhancing the actual value of work at simple rate of 7% per annum, calculated from the date of completion to last date of receipt of tenders.

Example/Clarification: Similar Project means that Medical Gas Pipeline System meeting major technical parameters irrespective of material of construction.

- Amended Eligibility Table

Cumulative Schedule/ Eligible Number of Schedules	Requirement of Minimum Cumulative Values (In INR) to determine number of Eligible Schedules						
	Estimated Cost	EMD to be submitted	Average Annual Turnover	Similar Projects executed in last seven years for meeting 50% of the estimated cost	Single order executed in last seven years for meeting 10% of estimated cost	Avg. Net Worth in last five years for meeting 10% of the estimated cost	Solvency for meeting 30% of the estimated cost
1	4,40,00,000	8,80,000	1,32,00,000	2,20,00,000	44,00,000	44,00,000	1,32,00,000
2	8,80,00,000	17,60,000	2,64,00,000	4,40,00,000	88,00,000	88,00,000	2,64,00,000
3	13,20,00,000	26,40,000	3,96,00,000	6,60,00,000	1,32,00,000	1,32,00,000	3,96,00,000
4	17,60,00,000	35,20,000	5,28,00,000	8,80,00,000	1,76,00,000	1,76,00,000	5,28,00,000
5	22,00,00,000	44,00,000	6,60,00,000	11,00,00,000	2,20,00,000	2,20,00,000	6,60,00,000
6	26,40,00,000	52,80,000	7,92,00,000	13,20,00,000	2,64,00,000	2,64,00,000	7,92,00,000
7	30,80,00,000	61,60,000	9,24,00,000	15,40,00,000	3,08,00,000	3,08,00,000	9,24,00,000
8	35,20,00,000	70,40,000	10,56,00,000	17,60,00,000	3,52,00,000	3,52,00,000	10,56,00,000
9	39,60,00,000	79,20,000	11,88,00,000	19,80,00,000	3,96,00,000	3,96,00,000	11,88,00,000
10	44,00,00,000	88,00,000	13,20,00,000	22,00,00,000	4,40,00,000	4,40,00,000	13,20,00,000
11	48,40,00,000	96,80,000	14,52,00,000	24,20,00,000	4,84,00,000	4,84,00,000	14,52,00,000
12	52,80,00,000	1,05,60,000	15,84,00,000	26,40,00,000	5,28,00,000	5,28,00,000	15,84,00,000
13	57,20,00,000	1,14,40,000	17,16,00,000	28,60,00,000	5,72,00,000	5,72,00,000	17,16,00,000
14	61,60,00,000	1,23,20,000	18,48,00,000	30,80,00,000	6,16,00,000	6,16,00,000	18,48,00,000
15	66,00,00,000	1,32,00,000	19,80,00,000	33,00,00,000	6,60,00,000	6,60,00,000	19,80,00,000
16	70,40,00,000	1,40,80,000	21,12,00,000	35,20,00,000	7,04,00,000	7,04,00,000	21,12,00,000
17	74,80,00,000	1,49,60,000	22,44,00,000	37,40,00,000	7,48,00,000	7,48,00,000	22,44,00,000
18	79,20,00,000	1,58,40,000	23,76,00,000	39,60,00,000	7,92,00,000	7,92,00,000	23,76,00,000
19	83,60,00,000	1,67,20,000	25,08,00,000	41,80,00,000	8,36,00,000	8,36,00,000	25,08,00,000
20	88,00,00,000	1,76,00,000	26,40,00,000	44,00,00,000	8,80,00,000	8,80,00,000	26,40,00,000
21	92,40,00,000	1,84,80,000	27,72,00,000	46,20,00,000	9,24,00,000	9,24,00,000	27,72,00,000
22	96,80,00,000	1,93,60,000	29,04,00,000	48,40,00,000	9,68,00,000	9,68,00,000	29,04,00,000
23	1,01,20,00,000	2,02,40,000	30,36,00,000	50,60,00,000	10,12,00,000	10,12,00,000	30,36,00,000
24	1,05,60,00,000	2,11,20,000	31,68,00,000	52,80,00,000	10,56,00,000	10,56,00,000	31,68,00,000
25	1,10,00,00,000	2,20,00,000	33,00,00,000	55,00,00,000	11,00,00,000	11,00,00,000	33,00,00,000

SECTION – XIII
BANK GUARANTEE FORM FOR EMD

- **Existing Para**

This guarantee shall be valid till such time to cover two months beyond the warranty period from the date of Notification of Award i.e. up to _____ (indicate date).

Read as

Deleted

All other contents of the tender enquiry including terms & conditions remain unaltered.

Note:

- i. **Prospective Bidders are also advised to check the website regularly prior to the closing date and time of online submission of bids**