FILE No.																		
Creator : Mr. Firoj				Moderator : Shri A.V.Muralidharan (Dy. CEO GeM)									Approver : A.K Kamra					
	Sub Category :																	
	Anaesthesia Workstation : UNSPSC Code																	
S.No.	Parameters			Value 1	Value2	Value 3	Value 4	Value 5	Value 6	Value 7	value 8	Validation	Golden parameter	Remarks	priority	Unit	Demand Aggregation	
Standards																		
1	Confirmity to standards	S	E	US FDA	European CE (Notified Body)		Indian Standard IS/ISO 80601-2-13 : 2011						G					
2	Certification for Manufacturer	S	E	ISO 13485									G					
3	Certification for medical electrical safety standards	S	E	IEC 60601-1									G					
General Parameters																		
4	Purpose of anaesthesia workstation	P	E	Anaesthetic machine is used to provide an accurate and continuous supply of medical gases mixed with an accurate concentration of anaesthetic vapour and deliver this to the patient at a safe pressure and flow.									G					
5	Components of Anaesthesia workstation	P	E	Anaesthesia machine , Inbuilt ventilator , vaporisor , Gas delivery system , Multipara monitor														
6	Material used for Anaeshesia workstation	P	E	Non ferrous metals	Polymer	Epoxy powder painted steel	Stainless steel	rust-proof ABS plastic with metal reinforcements					G					
7	Mode of integrated passive scavenging system with pressure relief valve	P	E	Active	Passive								G					
8	Minimum Battery backup for complete anaesthesia workstation unit	P	E	45 Minute	1 Hour	2 Hour	Not provided											
9	Minimum Battery backup separately provided for Ventillator	P	E	45 Minute	1 Hour	2 Hour	Not provided											

10	Minimum Battery backup separately provided for monitor	P	E	45 Minute	1 Hour	2 Hour												
11	Facility of manual ventillation in case of electricity and battery failure			Yes	No													
12	Facility of gas and agent delivery	P	E	Yes	No								G					
13	All the components likes anesthesia machine, integrated ventilator, vaporizer from the same manufacturer.	A	E	Yes														
14	Patient monitor from supplied same manufacturer	A	E	Yes	No													
15	Workstation should have minimum of two drawers to keep accessories. Good mobility, anti static caster wheels with locking facility & conveniently placed handles for easy movement of the machine.	A	E	Yes														
16	Warranty in years	P	E	3	4	5							G				years	
17	If Patient Monitor Supplied is from another manufacturer name of brand to be specified	P	T(20 characters)															
18	All software updates should be provided free of cost during Warranty period.	P	E	Yes														
Gas Delivery System																		
19	Facility of Pin index yokes for gases	P	E	Oxygen and Nitrous oxide	Oxygen , Nitrous oxide , Air													
20	Availability of Separate Pin index yokes for gases	P	E	Oxygen , Nitrous oxide , Air														
21	Facility of of cascading type flow meters for O2, N2O and air	P	E	Yes									G					
22	Mode og gas mixing	P	E	Electronic	Mechanical													
23	Facility of of rotameter control guards in anaesthesia workstation	P	E	yes														
24	Facility of pressure gauges for cylinder and pipelines in anaesthesia workstation	P	E	Yes														

25	Facility of reservoir based audible and visual oxygen failure alarms	P	E	Yes									G				
26	Minimum emergency oxygen flow in litre per minute	P	E	35-70									G			l t r	
27	Type of hypoxic guard with automatic cutoff of N_2O	P	E	Electronic	Mechanical								G				
VAPORIZER																	
28	Number of quick mount type vaporizer for easy interchangeability	P	E	2									G				
29	Facility of interlock for vaporizer	P	E	Yes													
30	Volume percentage of delivery range	P	E	0 to 10													
31	Minimum agent capacity for free volatile anaesthetic agent in ml	P	E	225												m l	
32	Sensor connection shall be internal to prevent disconnection	P	E	Yes													
33	Vaporizer compatible to gases	P	E	Sevoflurane	Isoflurane	Sevoflurane and isoflurane	Desfluran e	Helothane	Servoflur ane , isofurane , halothane , desfluran e	Desflur ane , halothan e			G				
34	The vaporizer design should be maintenance free	P	E	Yes													
35	Vaporizer shall require callibration only after every five years	P	E	Yes													
Breathing System																	
36	Breathing system should have fresh gas de-coupled compensation , fully autoclavable closed circle absorber system	P	E	Yes													
37	Range of pressure relief valve in mbar of breathing system	P	E	5 to 75												mbar	
38	Number of steps in change over from spontaneous to bag ventilation	P	E	single step									G				
39	Number of reusable autoclavable closed circuit supplied	D	E	2 for adult and 2 for pediatric									G				
40	Number of bains circuit (adult) supplied with workstation	P	E	10	15	20							G				
41	Number of Jackson Rees circuit for pediatric patients supplied with workstation	P	E	10	15	20							G				
42	Volume capacity of breathing system in litres	P	E	1.5	1.7											Litres	
43	Breathing system should have leak and compliance test	A	E	Yes									G				
Anaesthesis Ventilator																	

44	Available modes of operating ventilator	P	E	Manual/spont, volume controlled , pressure controlled , SIMV/PS									G					
45	Ventilator should be capable to pressure support	P	E	Yes	No													
46	Integrated ventilator shall not require bellows to be change for adults and infants	P	E	Yes														
47	Tidal volume of ventilaor in ml	P	E	20 to 1400 ml													ml	
48	PEEP of ventilator in mbar	P	E	0 to 20 mbar													mbar	
49	Breathing frequency in BPM	P	E	4 to 60 BPM													BPM	
50	Inspiratory pause percentage of Ti	P	E	0-50%														
51	Screen size of Ventilator monitor in inches	P	E	8	10	12	15										inch	
52	Integrated ventilator shall be able to provide facility to monitor ETCO2 , Automatic identificaion of agents , BIS /Entropy	P	E	Yes														
53	Ventilator should be able to ventilate with atmospheric air if total gas supply failure	P	E	Yes	No								G					
Patient Multipara Monitor																		
54	Type of monitor	P	E	TFT	LCD								G					
55	Size of monitor in inches	P	E	12	15	19							G				inch	
56	Monitor should not require lengthy start up procedure or calibration for display of parameters	P	E	Yes														
57	Monitor should have 24 hours graphical and numerical trend with split screen	P	E	Yes														
58	Patient multipara monitor shall be able to display parameters	P	E	ECG , NIBP , SPO2 , T1 , T2 , RESPIRATION , IBP1 , IBP2 , MAC VALUE , NMT , ANAESTHESIA GAS MONITORING , AUTO GAS IDENTIFICATION , BIS/ENTROPY 3/5 lead ECG, SpO2, NIBP, Dual temperature, Capnography/ETCO2 , 2x1 ABP														
59	ECG monitoring with standard lead configuration, I,II,III, avL, avF&V filters so that it is protected against defibrillator, electro surgery potentials, arrhythmia analysis and ST segment analysis with trends	P	E	Yes														
60	NIBP should be determine with oscillometric method, should read systolic, diastolic and mean arterial pressure and pulse rate.	P	E	Yes														
61	Pulse oximetery with sensors suitable for adults, pediatric& neonate.	P	E	Yes														

62	$ETCO_2$ measurement should be by infra –red absorption technique. Measuring mode should be side stream or main stream and response time should be less than 3 seconds.	P	E	Yes													
63	Monitor should be able to monitor and display all parameters in single screen	P	E	Yes									G				
Alarms																	
64	Number of alarms	P	N														
65	Alarms shall be adjustable to high / low limits with audio and visual alarms	P	E	Yes													
Power Supply																	
66	Length of main cable in meter with power socket of standard indian make to be provided	P	E									>5				Meter	
67	Power input to be 220-240VAC, 50Hz fitted with Indian plug	P	E	Yes													
Accessories																	
68	Transparent re-usable silicon face mask size 0.1.2.3.4.&5	P	A	2 each													
69	Breathing bag 2 Litre & 500 ml	P	A	2 each													
70	3/5 ECG lead	P	A	2													
71	Nasopharyngeal/rectal and skinTemperatureprobes should be Provided	P	A	2													
72	Re usable adult cuffs, reusable Paediatric cuff and sets of Disposables cuff for neonatal	P	A	2 each													
73	ETCO2 line and adaptors	P	A	2													
74	Mox regulator with 3 meter high Pressure tubing	P	A	1													
Reports																	
75	Certifications for product	R	E	US FDA	European CE (Notified Body)	Indian Standard IS/ISO 80601-2-13 : 2011							G				