



Running Contract Details	
Equipment Name	Modular Operation Theater
Running Contract Valid Till	05-05-2021
Tender Ref No	KMSCL/EP/T319/393/2019(R)
Tendered Quantity	50
Supplier Name	M/s Creative Healthtech Pvt Ltd
GST No	09AAECC7576N1ZW
Installation & Delivery Period	15 Week(s)
Up-time / PM vist	95% & 2 Visits per year
Warranty period	3 Years

Supplier`s Details		
Address	Contact Details	
Plot No.395 Udyogkendra-II Ecotech-III Greater NOIDA G.B. Nagar UP PIN - 201306	Contact Person	Mr. Sunil Dutta
	Phone	
	Mobile No	9811339989
	Email	chplmed@gmail.com

Item-wise Price Details				
#	Item Details	Unit Rate (Incl.all taxes & charges)	Service Charges (Through KMSCL)	Grand Total
1	Supply & installation of walls, false ceiling in horizontal/vertical and curved surfaces, coffer etc. of Pre fabricated modular operation theatre with 1.5 mm EGP sheet panels backed with 12mm thick. baison board with proper supports etc.as required complete.	3758.3 Incl.GST :18%	263.08	4021.38
2	Pre-fabricated insulated sandwich panels made up of 0.8mm GPSP (Galvanised Plain Skin Pass) GI sheet on both side with epoxy polyester powder coating and insulation of PUF with density 40±2 Kg/m3. Overall thickness of the panel shall be 80mm	3758.3 Incl.GST :18%	263.08	4021.38
3	Filling of all joints and cavities with metallic epoxy filler and sanded flush to provide a jointless finish and spraying with anti bacterial , self sterilizing paint to a d.f.t of 300 microns with primer.	1156.4 Incl.GST :18%	80.95	1237.35

Item-wise Price Details				
4	Supply, Installation, Testing and commissioning of Air Supply (2400 mm x 2400 mm) ceiling for air distribution system complete with HEPA Filters (efficiency 99.97% down to 0.3 microns) with SS 304 perforation sheet	268686 Incl.GST :18%	18808.02	287494.02
5	Supply, Installation, Testing and commissioning of Peripheral Lighting System for Clean Room Application, Double set Lights 2 feet long 36 Watts LED Light with dimming control. (Philips/ Havells / GM)	7906 Incl.GST :18%	553.42	8459.42
6	Providing , Fixing and commissioning of CE marked Automatic Electronically Operated Hermetically Sealing Sliding Doors (1500mm wide x 2100mm height) complying to international standards.	359900 Incl.GST :18%	25193	385093
7	Providing , Fixing and commissioning of Operation Theatre Control Panel (9 tile, memberane type) compiling HTM 2020 / 2021 standards, with Distribution board complete with all accessories etc.	111510 Incl.GST :18%	7805.7	119315.7
8	Providing , Fixing and commissioning of Operation Theatre X-ray viewing screen (2 plate, LED type), as per HTM 2020/2021 standard, dimmable lights complete with all accessories etc.	24544 Incl.GST :18%	1718.08	26262.08
9	Providing, Fixing and Commissioning of proper Pressure Relief Dampers for maintaining the positive pressure inside the Operation theatre complete with all accessories etc.	17110 Incl.GST :18%	1197.7	18307.7
10	Supply & Installation of Anti Static Conductive Vinyl Flooring with all necessary accessories.	3386.6 Incl.GST :18%	237.06	3623.66
11	Providing, Fixing and Installation of Operating Writing List Board complete with all accessories etc.	7316 Incl.GST :18%	512.12	7828.12
12	Providing, fixing and installation of sandwich glass with 6mm & 5mm toughned glass viewing window (1500mm x 1000mm) with motorised vinition blinds etc complete with all necessary fittings etc.	75933 Incl.GST :18%	5315.31	81248.31
13	Supply, Installation Testing & Commissioning of Single Arm Anaesthesia / Surgeon Pendant (1000mm Long) (Indigenous) Horizontal movement.	106200 Incl.GST :18%	7434	113634

Item-wise Price Details				
14	Providing, Fixing and Installation of Floor mounted 3 Bay Scrub Station made of SS 304 1.6mm thk. Sheet with timeout facilities, foot operated with hot and cold water mixture complete with all fittings etc.	146320 Incl.GST :18%	10242.4	156562.4
15	Air conditioning system - AHU, 11 TR (5.5TRx2)Outdoor unit, complete ducting, power cabling, MCB, etc as per specifications for one theater	851960 Incl.GST :18%	59637.2	911597.2
16	Hatch Pass box Active	84960 Incl.GST :18%	5947.2	90907.2
17	Supply & installation of homogenous vinyl flooring for sterile corridor, clean utility, pre & post op etc complete with all fixing accessories required	2920.5 Incl.GST :18%	204.44	3124.94
18	Providing, Fixing and Installation of OT control panel (separate item given below for panel, DB, electrical cables, sockets and switches and hence cost of this items need not be considered)	111510 Incl.GST :18%	7805.7	119315.7
19	For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately). Powder coated aluminium (minimum thickness of powder coating 50 micron)	767 Incl.GST :18%	53.69	820.69
20	Providing and fixing 12mm thick prelaminated particle board flat pressed three layer or graded wood particle board conforming to IS:12823 Grade I Type II, in panelling fixed in aluminum doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge. Pre-laminated particle board with decorative lamination on one side and balancing lamination on other side.	2596 Incl.GST :18%	181.72	2777.72
21	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with EPDM rubber / neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item): With float glass panes of 4.0 mm thickness	5664 Incl.GST :18%	396.48	6060.48

Item-wise Price Details				
22	<p>Providing and fixing aluminium die cast body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 35 kg and door width upto 700 mm) with necessary accessories and screws etc. complete.</p>	<p>4248 Incl.GST :18%</p>	297.36	4545.36
23	<p>Providing and fixing tiled false ceiling of approved materials of size 595 x 595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams per sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x 1.6 mm fixed to ceiling with 12.5mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85x 30x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer -in-charge. GI Metal Ceiling Lay in perforated Tegular global white color tiles of size 595x595 mm and 0.5mm thick with 8 mm drop; made of GI sheet having glavanizing of 100 gms/ sqm (both sides inclusive) and 20% perforation area with 1.8 mm dia holes and having NRC (Noise Reduction Coefficient) of 0.5, electro statically polyster powder coated of thickness 60 microns (minimum), including factory painted after bending and perforation, and backed with a black Glass fiber acoustical fleece.</p>	<p>1982.4 Incl.GST :18%</p>	138.77	2121.17

Item-wise Price Details				
24	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / paneling, C.P. brass/ stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing, paneling and dash fasteners to be paid for separately) : For fixed portion Powder coated aluminium (minimum thickness of powder coating 50 micron)	649 Incl.GST :18%	45.43	694.43
25	Providing and fixing aluminium tower bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete : 250x10 mm	531 Incl.GST :18%	37.17	568.17
26	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete	590 Incl.GST :18%	41.3	631.3
27	Applying one coat of water thinnable cement primer of approved brand and manufacture on wall surface : Water thinnable cement primer.	767 Incl.GST :18%	53.69	820.69
28	Wall painting with acrylic emulsion paint of approved brand and manufacture to give an even shade: Two or more coats on new work	649 Incl.GST :18%	45.43	694.43
29	Providing and fixing PVC pipes, fittings including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step PVC solvent cement and testing of joints complete as per direction of Engineer-in-Charge. Concealed work, including cutting chases and making good the wall etc. 20 mm pipe 10 Kgf/ cm²	383.5 Incl.GST :18%	26.85	410.35
30	Providing and fixing PVC pipes, fittings including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes with one step PVC solvent cement and testing of joints complete as per direction of Engineer-in-Charge. Concealed work, including cutting chases and making good the wall etc. 75 mm pipe 6 Kgf/cm²	383.5 Incl.GST :18%	26.85	410.35

Item-wise Price Details				
31	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead : Of area 3 sq. metres and below	354 Incl.GST :18%	24.78	378.78
32	Dismantling doors, windows and clerestory windows (steel or wood) shutter including chowkhats, architrave, holdfasts etc. complete and stacking within 50 metres lead : Of area beyond 3 sq. metres	354 Incl.GST :18%	24.78	378.78
33	Dismantling aluminium/ Gypsum partitions, doors, windows, fixed glazing and false ceiling including disposal of unserviceable surplus material and stacking of serviceable material with in 50 meters lead as directed by Engineer-in-charge.	1770 Incl.GST :18%	123.9	1893.9
34	Dismantling old electrical points, wiring, lights and handing over the same to the hospital authorities	35400 Incl.GST :18%	2478	37878
35	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge. In cement mortar	1652 Incl.GST :18%	115.64	1767.64
36	Dismantling tile work in floors and roofs laid in cement mortar including stacking material within 50 metres lead. For thickness of tiles 10 mm to 25 mm	354 Incl.GST :18%	24.78	378.78
37	Dismantling of toilet fittings including pipe lines , closets, washbasin etc to complete	11800 Incl.GST :18%	826	12626
38	FLOORING: Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20 mm thick cement mortar 1:4(1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600 x 600 mm.	1947 Incl.GST :18%	136.29	2083.29

Item-wise Price Details

39	<p>Supply, Installation, Testing & Commissioning of LT panel, cubicle type, made out of min 2mm thick CRCA sheet (load bearing), totally enclosed, IP42, free standing, floor mounting, dust and vermin proof, powder coated, indoor, compartmentalised, suitable for operation on 3 phase and neutral, 415 V, 50Hz AC system, including internal wiring with suitable size wires, hinged type door with gasket etc. along with required danger boards and ,rubber mats. Incomer: 200A,32kA,4P MCCB, thermal magnetic having adjustable O/L, SC protection - 1 no. Busbar : 1 Set of 200 A TPN busbars of high conductivity electrolytic quality Aluminium alloy and suitable size earthing conductor through out the panel for its earthing. Instruments : 2A, C curve SP MCB - 1 set, RYB indication lamp, LED type - 1 set, 1 Nos 3 phase Digital Multi function meter to read V, A, F, PF, kW, kWh Acc class 0.5, 200/10A 10VA class 0.5 resin cast CT - 1 set. Outgoing : 160A 4P MCCB, thermal magnetic having adjustable O/L protection - 1 nos. 100 A, 4P MCCB, thermal magnetic having adjustable O/L protection - 2 nos. 100 A, 4P MCCB, thermal magnetic having adjustable O/L protection - 2 nos.</p>	<p align="center">165200 Incl.GST :18%</p>	<p align="center">11564</p>	<p align="center">176764</p>
40	<p>Supply and Laying of 50 Sqmm 4C Armoured Copper Cable on wall surface (clamped with 40 x 3mm MS flat clamp) including termination</p>	<p align="center">3386.6 Incl.GST :18%</p>	<p align="center">237.06</p>	<p align="center">3623.66</p>
41	<p>Supply and Laying of 50 Sqmm 4C Armoured Copper Cable on wall surface (clamped with 1mm thick saddle) including termination</p>	<p align="center">3386.6 Incl.GST :18%</p>	<p align="center">237.06</p>	<p align="center">3623.66</p>
42	<p>10 Sq mm 4 core copper cable</p>	<p align="center">955.8 Incl.GST :18%</p>	<p align="center">66.91</p>	<p align="center">1022.71</p>
43	<p>WIRING AND ACCESSORIES : Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable etc as required. Group C</p>	<p align="center">1888 Incl.GST :18%</p>	<p align="center">132.16</p>	<p align="center">2020.16</p>
44	<p>Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, 2 way modular switch, modular plate,</p>	<p align="center">1888 Incl.GST :18%</p>	<p align="center">132.16</p>	<p align="center">2020.16</p>

Item-wise Price Details				
45	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required. 2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	151.04 Incl.GST :18%	10.57	161.61
46	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required. 2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire	180.54 Incl.GST :18%	12.64	193.18
47	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required. 2 X 4 sq. mm + 1 X 4 sq. mm earth wire	221.84 Incl.GST :18%	15.53	237.37
48	Wiring for circuit/ submain wiring alongwith earth wire with the following sizes of FRLS PVC insulated copper conductor, single core cable in surface/ recessed medium class PVC conduit as required. 4 X 4 sq. mm + 2 X 4 sq. mm earth wire	443.68 Incl.GST :18%	31.06	474.74
49	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection etc. as required. (For light plugs to be used in non residential buildings).	908.6 Incl.GST :18%	63.6	972.2
50	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 No's 5 pin 5/6 amps modular socket outlet and 1 No: 16 amps modular switch, connection etc. as required.	955.8 Incl.GST :18%	66.91	1022.71
51	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 amps modular socket outlet and 15/16 amps modular switch, connection etc. as required.	1085.6 Incl.GST :18%	75.99	1161.59
52	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required. 5/6 amps switch	129.8 Incl.GST :18%	9.09	138.89
53	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required. 15/6 amps switch	165.2 Incl.GST :18%	11.56	176.76

Item-wise Price Details				
54	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required. 3 pin 5/6 amp socket outlet	200.6 Incl.GST :18%	14.04	214.64
55	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required. 6 pin 15/16 amp socket outlet	224.2 Incl.GST :18%	15.69	239.89
56	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required. Telephone socket outlet	118 Incl.GST :18%	8.26	126.26
57	Supplying and fixing stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	708 Incl.GST :18%	49.56	757.56
58	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	23.6 Incl.GST :18%	1.65	25.25
59	Supplying and fixing brass batten/ angle holder including connection etc. as required.	295 Incl.GST :18%	20.65	315.65
60	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required. 20mm	177 Incl.GST :18%	12.39	189.39
61	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required. 25mm	200.6 Incl.GST :18%	14.04	214.64
62	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required. 32mm	259.6 Incl.GST :18%	18.17	277.77
63	Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required. 3 x 6 sq. mm	424.8 Incl.GST :18%	29.74	454.54

Item-wise Price Details				
64	Supply, laying and clamping of 1 no. PVC insulated and PVC sheathed armoured aluminium power cable, 1.1 KV grade of the following sizes using clamps noted along with the cables, spacing of clamps not exceeding 60cms, making good the damages , colour washing etc. as required. 3.5c 35 sqmm with factory made clamp including termination	401.2 Incl.GST :18%	28.08	429.28
65	Supply, laying and clamping of 1 no. PVC insulated and PVC sheathed armoured aluminium power cable, 1.1 KV grade of the following sizes using clamps noted along with the cables, spacing of clamps not exceeding 60cms, making good the damages , colour washing etc. as required. 4c 25 sqmm with factory made clamp including termination	306.8 Incl.GST :18%	21.48	328.28
66	MCBs AND MCB DISTRIBUTION BOARDS : Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 volts, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 amps tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCB's (but without MCB's and incomer) as required. (Note : Vertical type MCB TPDB is normally used where 3 phase outlets are required.) 8 way (4 + 24), Double door	17228 Incl.GST :18%	1205.96	18433.96
67	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator) 6 way (4 + 18), Double door	14396 Incl.GST :18%	1007.72	15403.72
68	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator) 8 way (4 + 24), Double door	17228 Incl.GST :18%	1205.96	18433.96
69	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator) 2 + 12 way / 14 way, Double door	9652.4 Incl.GST :18%	675.67	10328.07

Item-wise Price Details				
70	Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required. 100 Amps	2041.4 Incl.GST :18%	142.9	2184.3
71	Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.63 Amps	1357 Incl.GST :18%	94.99	1451.99
72	Supplying and fixing following rating, four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required. 40 Amps	1121 Incl.GST :18%	78.47	1199.47
73	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required. 63 amps, 100mA	4861.6 Incl.GST :18%	340.31	5201.91
74	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required. 40 amps, 2 pole, 30mA	3422 Incl.GST :18%	239.54	3661.54
75	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current upto 300 milliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required. 40 amps, 30mA	4484 Incl.GST :18%	313.88	4797.88
76	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts,10 kA "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. Single pole	283.2 Incl.GST :18%	19.82	303.02
77	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts,10 kA "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. 40A to 63A, 10KA, TP MCB (D curve)	1416 Incl.GST :18%	99.12	1515.12

Item-wise Price Details				
78	Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth, metal enclosed plug top alongwith 20 amps "C" curve, SP, MCB, in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket out let and complete with connections, testing and commissioning etc. as required.	542.8 Incl.GST :18%	38	580.8
79	EARTHING AND SAFETY EQUIPMENTS : Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required.	28674 Incl.GST :18%	2007.18	30681.18
80	Providing and fixing 4.00 mm dia copper wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	188.8 Incl.GST :18%	13.22	202.02
81	Providing and fixing 25 mm X 3 mm copper strip on surface or in recess for connections etc. as required.	837.8 Incl.GST :18%	58.65	896.45
82	Supply and installation of 36W LED 600X600 recess mounted indirect luminaire, with white powder coated CRCA housing with LEDs,seamless front frame with white high transmission acrylic cover complete with all accessories like electronic drive, lamp holder, 36W LEDlamp, mounting chajj, hook etc complete as required.(BAJAJ: BZRSQLW3 XE NW/ Philips/Havells)	4956 Incl.GST :18%	346.92	5302.92
83	Supply and installation of 15W LED downlight fixture, in die-cast aluminium powder coated white finish, with with heat sink, diffuser etc complete with all accessories like separate replacable HF electronic driver, LED lamp etc complete as required.(Havells LHEBJNP6IZ1W015/ PHILIPS/Bajaj)	2124 Incl.GST :18%	148.68	2272.68
84	Supply and installation of following sweep five star rated ceiling fan, with double ball bearing, Aluminium pressure die cast body with aluminium blades, canopies, hanging shackle, 30 cm down rod and without speed regulator suitable for 230 V 50 HZ, AC supply confirms to IS 374/1979 as required complete. (Make Crompton-High breeze Plus or equivalent approved make). 1200 mm sweep	3776 Incl.GST :18%	264.32	4040.32

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85	Supply and installation of 250 mm sweep, light duty exhaust fan in plastic body with shutter working on 230 V AC supply complete with all accessories as required. (Make: Crompton Greaves Brisk Air or any other approved equivalent make)	4602 Incl.GST :18%	322.14	4924.14
86	Supply of 400 mm size wall mounting oscillating type fan having three speed control, oscillation control at bottom and suitable for operation on single phase 230 volt, 50Hz AC supply complete with continuous duty motor, chrome plated front and rear gaurds and all accessories as required complete.(Make crompton-SDX white or equivalent approved make).	4484 Incl.GST :18%	313.88	4797.88
87	Supply and drawing of 2 pair,0.61mm dia unarmoured PVC insulated and PVC sheathed annealed tinned copper conductor telephone cables in recessed/surface conduit and termination complete as required.	47.2 Incl.GST :18%	3.3	50.5
88	Supply and fixing in position twin RJ11 jack plate i/c wall recessed GI box for telephone. (Reputed brand)	354 Incl.GST :18%	24.78	378.78
89	Supply and drawing CAT 6 wiring in recessed/surface conduite including termination for Data	99.12 Incl.GST :18%	6.94	106.06
90	Supply and fixing in position twin RJ45 jack plate i/c wall recessed GI box for LAN. (Reputed brand)	354 Incl.GST :18%	24.78	378.78
91	Charges for obtaining electrical inspectorate's approval	47200 Incl.GST :18%	3304	50504
92	Providing , Fixing and commissioning of CE marked Automatic Electronically Operated Hermetically Sealing Sliding Doors (1200mm wide x 2100mm height) complying to international standards.	359900 Incl.GST :18%	25193	385093
93	Providing , Fixing and commissioning of CE marked manually Operated Hermetically Sealing Sliding Doors (1500mm wide x 2100mm height) complying to international standards.	359900 Incl.GST :18%	25193	385093
94	Providing , Fixing and commissioning of CE marked Hinged door (1500mm wide x 2100mm height) complying to international standards.	94400 Incl.GST :18%	6608	101008

Item-wise Price Details				
95	Supply, Installation Testing & Commissioning of Double Arm Anaesthesia / Surgeon Pendant (2000mm Long) (Indigenous) Horizontal movement.	129800 Incl.GST :18%	9086	138886
96	Providing, Fixing and Installation of Floor mounted 2 Bay Scrub Station made of SS 304 1.6mm thk. Sheet with timeout facilities, foot operated with hot and cold water mixture complete with all fittings etc.	97940 Incl.GST :18%	6855.8	104795.8
97	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level: 1:2:4 (cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	8496 Incl.GST :18%	594.72	9090.72
98	Providing and laying in position machine batched and machine mixed design mix M-25 grade cement concrete for reinforced cement concrete work, using cement content as per approved design mix, including pumping of concrete to site of laying but , excluding the cost of centering, shuttering, finishing and reinforcement, including admixtures in recommended proportions as per IS: 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. All works above plinth level up to floor V level :	8673 Incl.GST :18%	607.11	9280.11
99	Centering and shuttering including strutting, propping etc. and removal of form work for : Foundations, footings, bases for columns.	7552 Incl.GST :18%	528.64	8080.64
100	REINFORCEMENT : Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete up to plinth level. Thermo-Mechanically Treated bars of grade Fe-500 D or more.	283.2 Incl.GST :18%	19.82	303.02
101	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in: Cement mortar 1:6 (1 cement : 6 coarse sand)(from floor 2 level up to floor 5 level)	8024 Incl.GST :18%	561.68	8585.68

Item-wise Price Details				
102	FLOORING: Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption less than 0.08% and conforming to IS : 15622, of approved make, in all colours and shades, laid on 20 mm thick cement mortar 1:4(1 cement : 4 coarse sand), including grouting the joints with white cement and matching pigments etc., complete. Size of Tile 600 x 600 mm.	1899.8 Incl.GST :18%	132.99	2032.79
103	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete	1817.2 Incl.GST :18%	127.2	1944.4
104	Providing and laying Ceramic glazed floor tiles of size 300x300 mm(thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick cement mortar 1:4 (1 Cement :4 Coarse sand), jointing with grey cement slurry @ 3.3kg/sqm including pointing the joints with white cement and matching pigment etc.,, complete.	1699.2 Incl.GST :18%	118.94	1818.14
105	Providing and laying Vitrified tiles indifferent sizes (thickness to be specified by manufacturer), with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make, in all colours & shade, in skirting, riser of steps, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete. Size of Tile 600x600 mm (for walls)	1793.6 Incl.GST :18%	125.55	1919.15
106	PLASTERING : 12 mm cement plaster of mix : 1:6 (1 cement: 6 fine sand)	767 Incl.GST :18%	53.69	820.69
107	12 mm cement plaster finished with a floating coat of neat cement of mix: 1:3 (1 cement : 3 fine sand)	767 Incl.GST :18%	53.69	820.69
108	FINISHING : Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/10 sqm).	790.6 Incl.GST :18%	55.34	845.94

Item-wise Price Details				
109	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : Two or more coats on new work.	472 Incl.GST :18%	33.04	505.04
110	PLUMBING : Providing and fixing white vitreous china extended wall mounting water closet of size 780x370x690 mm of approved shape including providing& fixing white vitreous china cistern with dual flush fitting, of flushing capacity 3 litre/6 litre (adjustable to 4 litre/8 litres), including seat cover, and cistern fittings, nuts, bolts and gasket etc complete.	12390 Incl.GST :18%	867.3	13257.3
111	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	1416 Incl.GST :18%	99.12	1515.12
112	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690gms. 15 mm nominal bore	873.2 Incl.GST :18%	61.12	934.32
113	Supplying and fixing Stainless steel soap dish including cost of materials and labour charges etc complete as per the direction of site Engineer-in-charge.	259.6 Incl.GST :18%	18.17	277.77
114	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar taps,32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require : White Vitreous China Wash basin size 630x450 mm with a pair of 15 mm C.P. brass pillar taps.	9204 Incl.GST :18%	644.28	9848.28
115	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fitting arrangement of approved quality and colour.600mm long towel rail with total length of 645mm, width 78mm and effective height of 88mm, weighing not less than190gms.	1121 Incl.GST :18%	78.47	1199.47
116	Providing and fixing PVC pipes, fittings including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes with one step PVC solvent cement and testing of joints complete as per direction of Engineer-in-Charge. Concealed work, including cutting chased and making good the wall etc. 110 mm pipe 6kgf/cm2	354 Incl.GST :18%	24.78	378.78

Item-wise Price Details				
117	Constructing soak pit 1.20x1.20x1.20m filled with brickbats including S.W. drain pipe 100 mm diameter and 1.20 m long complete as per standard design.	23600 Incl.GST :18%	1652	25252
118	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete. Flexible pipe 32 mm dia	141.6 Incl.GST :18%	9.91	151.51
119	Providing and fixing white vitreous china laboratory sink with C.I brackets, C.P. brass chain with rubber plug 40 mm C.P brass waste and 40 mm C.P. brass trap with necessary C.P. brass unions complete, including painting of fittings and brackets, cutting and making good the wall wherever required: Size 600x450x200 mm	10384 Incl.GST :18%	726.88	11110.88
120	Supplying and fixing CP Health Faucet superior quality (Jagur or equivalent make) including cost of materials and labour charges etc complete as per the direction of site Engineer-in-charge..	2183 Incl.GST :18%	152.81	2335.81
121	MISCELLANEOUS : Providing and fixing M.S. Grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. including priming coat with approved steel primer all complete. Fixed to openings/ wooden frames with rawl plugs screws etc	129.8 Incl.GST :18%	9.09	138.89
122	Providing and fixing Thomson Multi wood board or equivalent make, in shelves,shutter with screws and fittings wherever required, edges to be painted with polyurethane primerincluding all fittings as per the direction of site Engineer-in-charge. (Total area of the shutter only measured).	4661 Incl.GST :18%	326.27	4987.27

Item-wise Price Details

123	<p>FALSE CEILING: Providing and fixing false ceiling at all height including providing and fixing of frame work made of special sections, power pressed from M.S. sheets and galvanized with zinc coating of 120 gms/sqm (both side inclusive) as per IS : 277 and consisting of angle cleats of size 25 mm wide x 1.6 mm thick with flanges of 27 mm and 37mm, at 1200 mm centre to centre, one flange fixed to the ceiling with dash fastener 12.5mm dia x 50mm long with 6mm dia bolts other flange of cleat fixed to the angle hangers of 25x10x0.50 mm of required length with nuts & bolts of required size and other end of angle hanger fixed with intermediate G.I. channels 45x15x0.9 mm running at the rate of 1200mm centre to centre to which the ceiling section 0.5 mm thick bottom wedge of 80 mm with tapered flanges of 26 mm each having lips of 10.5 mm, at 450 mm centre to centre, shall be fixed in a direction perpendicular to G.I. intermediate channel with connecting clips made out of 2.64 mm dia x 230 mm long G.I. wire at every junction, including fixing perimeter channels 0.5 mm thick 27 mm high having flanges of 20mm and 30 mm long, the perimeter of ceiling fixed to wall/partition with the help of rawl plugs at 450 mm centre, with 25mm long dry wall screws @ 230 mm interval, including fixing of gypsum board to ceiling section and perimeter channel with the help of dry wall screws of size 3.5 x 25 mm at 230 mm c/c, including jointing and finishing to a flush finish of tapered and square edges of the board with recommended jointing compound , jointing tapes , finishing with jointing compound in 3layers covering upto 150 mm or both sides of joint and two coats of primer suitable for board, all as per manufacture's specification and also including the cost of making openings for light fittings, grills, diffusers, cutouts made with frame of perimeter channels suitably fixed, all complete as per drawings, specification and direction of the Engineer in Charge but excluding the cost of painting with : 12.5 mm thick tapered edge gypsum plain board conforming to IS: 2095- Part I.</p>	<p align="right">1923.4 Incl.GST :18%</p>	<p align="right">134.64</p>	<p align="right">2058.04</p>
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Item-wise Price Details

124	<p>Providing and fixing tiled false ceiling of approved materials of size 595 x 595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanized steel sections (galvanized @ 120 grams per sqm, both side inclusive) consisting of main "T" runner with suitably spaced joints to get required length and of size 24x38 mm made from 0.30 mm thick (minimum) sheet, spaced at 1200mm center to center and cross "T" of size 24x25 mm made of 0.30 mm thick (minimum) sheet, 1200 mm long spaced between main "T" at 600 mm center to center to form a grid of 1200x600 mm and secondary cross "T" of length 600 mm and size 24x25 mm made of 0.30 mm thick (minimum) sheet to be interlocked at middle of the 1200x600 mm panel to form grids of 600x600 mm and wall angle of size 24x24x0.3 mm and laying false ceiling tiles of approved texture in the grid including, required cutting/making, opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc. Main "T" runners to be suspended from ceiling using GI slotted cleats of size 27 x 37 x 25 x 1.6 mm fixed to ceiling with 12.5mm dia and 50 mm long dash fasteners, 4 mm GI adjustable rods with galvanised butterfly level clips of size 85x 30x 0.8 mm spaced at 1200 mm center to center along main T, bottom exposed width of 24 mm of all T-sections shall be pre-painted with polyester paint, all complete for all heights as per specifications, drawings and as directed by Engineer -in-charge. 12.5 mm thick square edge PVC Laminated Gypsum Tile size 595x595 mm made of Gypsum plasterboard , manufactured from natural gypsum as per IS 2095 part I and laminated with white 0.16 mm thick fire retardant PVC film on the face side and 12 micron metalized polyster on the back side with all edges sealed with the face side PVC film which goes around and wraps the edges and is bonded to the edges and the back side metalized polyster film so as to make the tile a completely sealed unit</p>	<p align="center">1923.4 Incl.GST :18%</p>	<p align="center">134.64</p>	<p align="center">2058.04</p>
125	<p>Providing and fixing PVC Door Frame of size 50x47mm with a wall thickness of 5 mm (± 0.2 mm) made out of single piece extruded PVC profile, with mitred cut joints and joint with 2nos of PVC bracket of size 190 mm x 100 mm long arms of cross section size 35 x 15mm & self driven self taping screws, the vertical door profiles to be reinforced with 40x20mm M.S. rectangular tube of 0.8 mm , including providing EPDM rubber gasket weather seal throughout the frame, including jointing 5mm PVC frame strip with PVC solvent cement on the back of the profile. The door frame to be fixed to the wall using 8x100mm long anchor fasteners complete, all as per manufacturer's specification and direction of Engineer -in- charge.</p>	<p align="center">472 Incl.GST :18%</p>	<p align="center">33.04</p>	<p align="center">505.04</p>

Item-wise Price Details				
126	Providing and fixing 2.0mm th. Vinyl floor with rubber based adhesive over clean and smooth surface including finishing by rolling a light roller all complete.	2891 Incl.GST :18%	202.37	3093.37
127	Providing and fixing sun controlled film on glass surface for door/windows,after thoroughly cleaning and dust free the surface to get smooth finish,to get air tight clean surface, ect,complete as directed by Engineer-in -charge	413 Incl.GST :18%	28.91	441.91
128	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.	643.1 Incl.GST :18%	45.02	688.12
129	Storage cabinet for accessories: Storage cabinet for accessories in 19 mm ply board construction having sides, top, front, openable panels laminate finish with internal horizontal shelf 19mm commercial plywood painted (enamel) as per approval. Front panels to have a locking arrangements with one panel having tower bolt on the inner side with handles , magnetic hinges and all complete.	4956 Incl.GST :18%	346.92	5302.92
130	PVC Name plates - 24" (L) x 4" (H) color and matter will be given by the respective user institute	590 Incl.GST :18%	41.3	631.3
131	Shoe Rack Three Shelves : SS 304 grade, Three shelves, of 16 guages, Six SS tube frame levels as support for 6 pairs of shoes in one shelf, Abrasion resistant, non-discoloring, corrosion resistant	10620 Incl.GST :18%	743.4	11363.4

Item-wise Price Details

132	<p>35 mm thick factory made Solid panel PVC Door shutter made out of single piece extruded solid PVC profiles, 5 mm (± 0.2mm) thick, having styles & rails (except lock rail) of size 95 mmx 35 mm x 5 mm, out of which 75 mm shall be flat and 20 mm shall be tapered (on both side), having one side thickness of 15 mm integrally extruded on the hinge side of the profile for better screw holding power, including reinforcing with MS tube of size 40 mmX 20 mm x 1 mm, joints of styles & rails to be mitered cut & joint with the help of PVC solvent cement, self driven self tapping screws & M.S. rectangular pipes bracket of size 190 mm X 100 mm of cross section size 35 mm x 17 mmx 1 mm at each corner. Single piece extruded 5mm thick solid PVC Lock rail of size 115 mm x 35 mm x 35 mm, out of which 95 mm to be flat and 20 mm to be tapered at both ends, having 15 mm solid core in middle of rail section integrally extruded, fixing the styles & rails with the help of solvent and self driven self tapping screws of 125 mm x 11 mm, including providing 5 mm Single piece solid PVC extruded sheet inserted in the door as panel, all complete as per manufacturer's specification and direction of Engineer-in-charge. Non decorative finish (matt finish).</p>	<p align="center">1746.4 Incl.GST :18%</p>	<p align="center">122.25</p>	<p align="center">1868.65</p>
133	<p>AC WORKS : Ductable A/C units 8.5 TR Low side works for complete installation & commissioning of AC . Supply , installation ,testing & commissioning of 8.5 TR or higher capacity aircooled ductable split air conditioner with ceiling suspended IDU and all standard fitting,GSS sheet metal duct(insulation using resin bounded glass wool with 7 micron aluminium foil) for air distribution 22/24 G, IDU SS drain pan as per specification complete with suitable capacity drive motor , aircooled condensor with all accessories ,hermetically sealed scroll compressor, electronic microprocessor pendant controller with digital display, first charge refrigerant gas, vibration isolator pads, structural support for fixing IDU/ODU, safety devices including thermal protector, pressur releafe valve ,overload relay single phase preventer etc, power wiring and control cabling(indoor to outdoor), thermostat wiring, high-low pressure cut out suitable for 3 phase 440V supply etc complete as required .</p>	<p align="center">342200 Incl.GST :18%</p>	<p align="center">23954</p>	<p align="center">366154</p>
134	<p>2 tonne Split air conditioner 3/4 star copper condensor coil with stablizer complete installation & commissioning (rate for 1 no)</p>	<p align="center">66080 Incl.GST :18%</p>	<p align="center">4625.6</p>	<p align="center">70705.6</p>
135	<p>Supply and installation of portable fire extinguisher (4 kg) with wall mounted for fire type ABC classification</p>	<p align="center">4720 Incl.GST :18%</p>	<p align="center">330.4</p>	<p align="center">5050.4</p>

Item-wise Price Details				
136	Fixing Window curtain - Blinds type with fixtures	472 Incl.GST :18%	33.04	505.04
137	Fixing Window Curtain - cloth with fixtures	1770 Incl.GST :18%	123.9	1893.9
138	Fixing Door Curtain - cloth with fixtures	2950 Incl.GST :18%	206.5	3156.5
139	Providing installing, connecting, testing and commissioning Heat Detectors type with mounting base, blinking LED as required complete and integration	5664 Incl.GST :18%	396.48	6060.48
140	Supplying, installation, testing and commissioning of Conventional Photoelectric Smoke detectors as required to connect with existing system	5664 Incl.GST :18%	396.48	6060.48
141	Providing and fixing of response indicator as required	920.4 Incl.GST :18%	64.43	984.83
142	Conventional Single -Zone Fire Panel with batteries, battery charger mimic diagram etc	118000 Incl.GST :18%	8260	126260
143	Providing and fixing in position CO2 type fire extinguisher of 5kg Capacity	9440 Incl.GST :18%	660.8	10100.8
144	AC WORKS : Ductable A/C units 5.5 TR Low side works for complete installation & commissioning of AC . Supply , installation ,testing & commissioning of 5.5 TR or higher capacity aircooled ductable split air conditioner with ceiling suspended IDU and all standard fitting,GSS sheet metal duct(insulation using resin bounded glass wool with 7 micron aluminium foil) for air distribution 22/24 G, IDU SS drain pan as per specification complete with suitable capacity drive motor , aircooled condensor with all accessories ,hermetically sealed scroll compressor, electronic microprocessor pendant controller with digital display, first charge refrigerant gas, vibration isolator pads, structural support for fixing IDU/ODU, safety devices including thermal protector, pressur releafe valve ,overload relay single phase preventer etc, power wiring and control cabling(indoor to outdoor), thermostat wiring, high-low pressure cut out suitable for 3 phase 440V supply etc complete as required .	306800 Incl.GST :18%	21476	328276
		4664243.82	326497.07	4990740.89

Annual / Comprehensive Maintenance Charges (Exl.Tax)							
Rate	4 th Year	5 th Year	6 th Year	7 th Year	8 th Year	9 th Year	10 th Year

Other terms & conditions

1. The supplier shall execute an agreement with the purchaser as per tender conditions (agreement format is given in the tender document).
2. The supplier shall submit performance security amounting to 5% of the value of the supply order.
3. The labour & comprehensive charges of equipment after the completion of warranty period is finalized by KMSCL as mentioned above.
4. Since discount rate is not applicable for equipment under Running Contract of KMSCL, purchase/supply order can be issued directly to supplier at the given rate with tax & other charges (exclusive of KMSCL service charges).
5. If purchase/supply order is issued directly to the supplier, KMSCL service charge need not be paid. But the copy of the said order may be forwarded to KMSCL for information.

Technical Specification

Equipment :Modular Operation Theater

I. GENERAL:

1. The Pre-fabricated modular construction is designed and constructed for exact size, easy field installation and future disassembly, enlargement, or relocation.
2. The panels shall be made of a durable and uniform material that should be easy to clean and extremely hygienic.
3. Operation theatre should not have any sharp edges and corners and do not support bacteriological or fungicidal growth and is resistant to most chemicals commonly used in hospital departments.
4. Joints between the panels in the Operation theatre should be sealed properly.
5. Should have reaction to fire – Class 1 norm.
6. The Operation Theatre should be commissioned with the following test as per NABH guidelines
 - i. Overall air quality of the theatre shall be Class 10000 and above the operation table should be Class 1000.
 - ii. Validation of HEPA filters by appropriate tests like DOP etc.
 - iii. Air Velocity at outlet of terminal filtration unit / filters.
 - iv. Air Particulate count.
 - v. Air Change rate calculation.
 - vi. Temperature & Humidity test.
 - vii. Pressure differential levels of the OT wrt ambient / adjoining areas.
 - viii. Positive pressure – Min. 15-20 Pascal
7. Test Certificates of the above mentioned test shall be provided from a NABL Accredited Lab.

II. SCOPE OF WORK

1. View panels has to be provided with double glass in the windows of the OT
2. The plumbing work and drain for new scrub station along with new scrub has to be provided.
3. The required electrical wiring work shall be done at lot.
4. Sterile Corridor shall be provided with powder coated GI grid tile type false ceiling.
5. Electrical light fittings shall be provided in the sterile corridor.
6. The wiring for Air conditioners and AHUS shall be done.
7. Proper earthing shall be done for modular OT and air conditioners.

III. SPECIFICATIONS

1. Pre-fabricated Operation Theatre Walls & Ceiling Construction:

The Theatre walls and ceiling shall be constructed with 1.50mm thick EGP (Electro Galvanized Plated) steel panels (Make Tata / Jindal or equivalent) backed by 12-mm bison board (India Gypsum) panels having a flame resistance to BS 1142 part 3.

The external walls of the theatre shall be constructed with solid bricks with cement plastering and white wash. Ceiling shall also be plastered and white washed.

The inner surface walls shall be fixed to the brick walls with essential supports at equal intervals (See Anchor fasteners/fixtures in list of approved makes).

There shall be minimum possible cavity/gap in between the solid and steel walls. The total distance between the inside and outside surfaces of the theatre shall be variable to suit the architects' layout, but shall be sufficient for the flush mounting of equipments. The cavity between the inner and outer walls shall be left with minimum obstructions for the possible addition of equipment at a later date and to enable services, pipes, conduits etc, to be run within the cavity.

All equipments shall be flush mounted and sealed properly with the fillers and later by painting on the walls. The individual wall panels shall be spot welded at equal interval to render adequate support to the panels. Spot welding shall be properly grinded to make the surface level. Filler material shall be properly used in adequate quantity and rubbed to make a uniform plane surface, which shall be coated with at least one primer and three coats of antibacterial spray paint.

The wall/ceiling panel design and construction shall be provided with openings, required for later inclusions of addition equipments, repair of installed equipments, without affecting the rigidity and strength of the structure.

There shall be no sharp edges and all the corners shall be curved to avoid bacteria contamination.

All the four corners shall have return air duct outlets, the grill of which shall be made of MS sheet, duly powder coated with the colour choice to suit the hospital.

The joints between walls and ceiling shall be connected by means of tapered panels angled at around 45 deg., shall not be joined at 90 deg.

There shall be provision in the ceiling for mounting other equipments i.e. Ceiling Operation theatre light, Pendants etc.

2. Air Supply Ceiling with Peripheral Illumination lighting system:

The Laminar box shall be constructed of a made of high quality Aluminium 1.2mm thick Sheet panels that will introduce the highest air quality into the Operation Theatre. 6 Nos. of HEPA filters (Thermadyne / Enfilco or equivalent, having efficiency 99.997% down to 0.3 micron) shall be used to ensure high quality clean air is supplied and under tight control of bacteria infection system. The air distribution system serving to the Operation Theatre shall be tested as per DIN 4799 standards. Air shall be diffused into the theatre uniformly over the total area through perforated stainless steel sheet.

There shall be adequate number of supports for ceiling/ peripheral lighting and Air Laminar box, which shall be duly with powder coated, to secure these with main structural frame of operating theatre. Finally, Laminar box and Lighting shall be properly sealed with the ceiling by means of fillers and beadings etc. as earlier defined sealing method mentioned in point no. 1.

The Air Laminar Flow and Illumination lighting system shall be made in such a manner so that maintenance at any given time is not a problem. Replacement of the Hepa-Filter elements / complete Hepa-Filters shall be available with minimum openings and absolute disturbance to the main structure.

3. Peripheral Light cum clean room luminaries.

It should be fitted outside the air ceiling system area and flush with the ceiling in the operation theatre suitable to required illumination of OT. Peripheral lights and clean room luminaries fitted in the frame should be 8 nos. as suitable to the required illumination (500 Lux) in numbers of each OT. The LED lamp of size 2ft' x 2ft with highly spectacular anodized aluminium reflectors and optical antiglare system for adjustable light distribution. Luminaries cover made of highly resistant, disinfectant proof laminated safety glass with fine grained surface, glass pane with white powder coated steel frame. Luminary's body made of sheet steel, white powder coated supplied ready for connection. The reflectors should be of high quality, cleanable and non deteriorating. Dimmable ballasts of reputed companies to be used and diffuser should be constructed with opaque acrylic diffuser materials in aluminium frame. It should have flicker less design with color. The fitting should be flush with the ceiling and should be removable from bottom. Lighting units should be properly sealed with ceiling by means of fillers and beadings so that all lighting units are airtight with ceiling panels. The light fitting should be uniformly and aesthetically distributed on the ceiling to provide uniform illumination in the OR. Peripheral lighting should be done according to IP 54 protocol.

4. Hermetically Sealing Sliding Doors: To maintain sterility and correct air pressure inside the theatre, all doors into and out shall be of the sliding, hermetically sealing type.

a. The door shall meet the following specifications:

1. Doors shall be CE certified.
2. Meets international quality and safety requirements as per ECConformity Declaration & CE standards.
3. Electrical safety codes for High & Low voltage system design shall meet HTM 2020/2021 standards.
4. Doors shall be wired to the current IEE regulations & BS7971 standard.

The doorframe shall be made of high quality anodised aluminium and the door panel is to be made of compact laminate that could withstand high abrasion. To ensure efficient sealing of the doors, the door manufacturer shall provide the doorframes also. They shall consist of reinforced plasterboard panels faced with the same laminate as the doors have. The door shall seal all four edges in the closed position. The track of the door shall be constructed with an aluminium extrusion, firmly fixed to the walls. Nylon runner guides shall be fixed to the floor in such a way that they do not obstruct trolley movement through the door. The doorframes shall be adjustable during installation to ensure a 100% hermetic seal is achieved. All doors shall be provided with High strength Glass Vision panels of 300mm x 300mm size, which shall be properly sealed with the door.

b. Electronic Opening System for Hermetically sealed doors:

The door shall be provided with electronically operating system. The door shall open by 3 phases like 1/3rd width, ½ width and full width. The door shall be provided with automatic sensor. The sensor shall sense automatically if any obstruction while closing the door. The door shall continuously monitor its own movements. The door opening speed shall be adjustable according to hospital requirements.

5. Operation Theatre Control Panel:

The Operation Theatre Control Panel shall meet requirement of HTM 2020/2021 for Electrical Safety codes for High & Low voltage system, wired to the current IEE regulations & BS7971 and EC-Conformity Declaration CE, HTM 2022:1997 for Medical Gas Pipe Line System.

The theatre Control Panel shall be designed to cope with changing technology and equipment in operating environments. Control panel shall be user friendly and ease of operating and maintenance purpose.

The panel shall be “Tiled Membrane” type, can be configured to incorporate all the services that Operation Theatre staff required. The fascia shall be made with superior quality UV resistance membrane with sterilisable feature. The membrane backing is made of 2.5mm thick aluminium that is rust resistance. The connection between the surgeon control panel and the distribution board shall be by a multiplexed system, providing a PWM signal on a two-core cable.

The panel shall contain 9 services Tiles as below:

- a) Time Day Clock
- b) Time Elapse Day Clock
- c) Temperature & Humidity Indicator with controller
- d) General Lighting System
- e) Medical Gas Alarm Panel
- f) Hand Free Telephone set with memory card
- i) HEPA filter efficiency
- j) Music system

Time Day Clock shall be digital type. Elapsed Time Day clock shall be also be of digital type and both clocks shall have high brightness characters which are not less than 30mm in height.

Temperature / Humidity Indicator and controller shall indicate the theatre temperature, which shall be connected to the local pressure switches of Air-Conditioning system. Indicator shall be of digital type have high brightness characters, not less than 30mm in height. General Lighting System incorporates all the necessary controls of the lighting system inside the theatre.

The medical gas alarm shall indicate High and Low gas pressure for each gas service present in the operating theatre and shall have an audible buzzer with mute facility.

The medical gas alarms shall be connected to local pressure switches located downstream of the last isolation valves.

A Hand Free Set Telephone system incorporated in the panel with memory type card.

HEPA filter efficiency tile should indicate the status of the filter fitted inside the plenum box in the OT.

The size of the each tile shall not be more than 300mm x 200mm. Colour shall be RAL 9002 for the frame and membrane fascia.

All internal wires shall be marked with plastic ferrule type cable markers, for ease of identification. The Control Panel shall be

designed for front access only.

6. Distribution Board:

All high voltage equipment is installed in a separate enclosure.

The remote cabinet will house the operating lamp transformers, mains failure relays, electrical distribution equipment and circuit protection equipment for all circuits within the operating theatre.

All internal wiring shall terminate in connectors with screw and clamp spring connections of the Clip-on type mounted, on a DIN rail and labelled with indelible proprietary labels.

Individual fuses or miniature circuit breakers shall protect all internal circuits.

7. X-Ray Viewing Screen:

The system shall meet HTM 2020/2021 for electrical safety codes for high & low voltage system, HTM 2007 for electrical supply and services distribution and wired to the current IE regulations & BS7971.

The theatre is to be equipped with a 2-plate X-Ray viewing screen. It designed to provide flicker free luminance for the film viewing purpose. It is installed flushed with the theatre wall for hygienic and ease of cleaning purpose. The XRay viewing screen is designed for the purpose of front access.

The X-Ray viewing screen is illuminated by 4 pieces of high frequency fluorescent lamps and the dimming is controlled by the usage of dimming ballast with PCB that is mounted inside the box.

The diffuser is able to diffuse the light evenly and to provide enough luminance for film viewing. It is made of high quality opaque acrylic sheet. The film is held firmly by using spring-loaded clips for ease of mounting and demounting. The body is built by using electrolysed steel with powder coated to BS standards.

The dimming control is using variable resistance control that is able to turn on the light while step up the brightness till the full brightness status. It could be done by either using rotary control system or PCB button control system.

8. Pressure Relief Dampers

Pressure Relief Dampers shall be provided in each theatre to prevent cross contamination of air from clean and dirty areas. Suitably sized air pressure relief damper shall be strategically placed, enable differential room pressure to be maintained and ensure that when doors are opened between clean and dirty area.

Counter-weight balancing system shall be provided in the PRD to maintain positive pressure inside the operation theatre. Air pressure stabilisers shall have unique capability of controlling differential pressure to close tolerance. The PRD shall remain closed at pressure below the set pressure and shall open fully at pressure only fractionally above the threshold pressure.

The body shall be epoxy powder coated as per standard BS colours. Meets international quality and safety requirements.

First class electrolysed steel plate shall be used for body and with high grade SS304 Stainless Steel for blades.

The PRD design shall be as per HTM 2025:1994 for ventilation in healthcare premises.

9. Operation Theatre Flooring (Conductive roll)

A floor screed shall be provided, flat to within a tolerance of +/- 3mm over any 3-metre area. Onto this sub floor, a self-levelling

compound shall be laid prior to laying of the floor finish.

The self-levelling compound shall be of the type that does not promote bacteriological growth. Copper grounding strips (0.05mm thick, 50mm width) shall be laid flat on the floor in the conductive adhesive and connect to copper wire of grounding.

The floor finish in the operating room shall be 2mm Conductive PVC roll, laid on a semi conductive adhesive base.

The floor finish shall terminate at the room perimeter passing over a concealed cove former and continuing up the wall for 100mm.

All joints shall be welded to provide a continuous sealed surface.

The floor shall have an electrical resistance of 2.5×10^4 to 10^6 Ohms, as per DIN 51953, ATM F-150 or NFPA 99, B1 class of fire resistance and shall meet UL standard 779. Fulfils product requirements as per EN649.

10. Operating List Board (900mm x 650mm):

One Operating List Board shall be provided in each Operating Theatre and shall be made of Ceramic Magnetic white board. Operating List board shall be flush to the wall.

11. Scrub Station:

Operation Theater complex shall be equipped with 3 bay scrub station.

The scrub station shall be made of high-grade stainless steel 304 with stain polish finish and wired to the current IEE regulations & BS 7971. The scrub stations control system shall be based on advanced microprocessor. The scrub station shall be sensor-activated 24VAC. The scrub station shall be provided with user selectable time out control. The supply shall not be interrupted in case of power failure or maintenance. The station shall be equipped with thermostatic mixing valve to controls the temperature of hot / cold water supply. The washing faucet shall be made of Chrome plated brass hand. The station shall be equipped with soap dispensers.

12. Anesthesia Pendant

1. The support arms shall be extremely robust and revolve on high quality bearings, so that the pendant head glides smoothly and quickly to any desired position.
2. The pendant shall be single arm type. The arms shall be available as follows :- 1000mm movable arm with horizontal movement.
3. Single arm shall be capable of 330o rotation and be fitted with stops, which can be easily adjusted to suit the desired mode of operation.
4. The pendant service heads shall be modular.
5. The head shall be capable of accepting a range of shelves, accessories rails or other accessories.
6. The pendant heads shall support the extrusive range of physiological monitor mounting solutions.
7. The pendant service heads shall be 1000mm length and supplied with medical gas outlets.
 - a) Medical gas outlets and probes Vacuum outlets (2 No) (DIN type)
 - b) Medical air (1 No.) (DIN type)
 - c) Oxygen (2 No.) (DIN type)

d) N2O (1 No.) (DIN type)

e) Electrical switch socket (10 Nos.)

f) RJ45 (1 No.)

8. Gas connection between pendant and pipeline shall be carried out via antistatic medical gas hoses both ends of the hoses.

9. The heavy duty single arm shall be capable of supporting 120Kg load at maximum reach.

10. Pendant arm shall be powder coated.

13. Surgical Pendant

1. The arm and column / head shall be made of high quality aluminum alloy to provide high weight capacity for the equipments.

2. The pendant arm shall consist of two arms with 3 articulations.

3. The length of double mechanical arms shall be 750mm + 750mm.

4. The load capability of the pendant arm shall be at least 150Kg.

5. The allowable rotation angle of each axis shall be at least 340o

6. The supply distribution of column shall be 800mm to carry the gas and electrical outlets.

7. Inside the column, it shall be with separated design cavities for gas and electrical outlets for maximum safety.

8. The shelf shall be attached to the rails and height adjustable.

9. Supply distribution shall consist of but not limited to the following outlets:

a. Vacuum outlets (1 No) (DIN type)

b. Medical air (1 No.) (DIN type)

c. Oxygen (1 No.) (DIN type)

d. N2O (1 No.) (DIN type)

e. Electrical switch socket (10 Nos.)

f. RJ45 (1 No.)

10. Shelf (with side rail) load capacity at least 30Kg. (530mm x 480mm) (1 No.)

11. Shelf (with side rail) load capacity at least 30Kg. (530mm x 480mm x 150mm) (1 No.)

12. Pendant shall be CE marked.

13. Pendant arm shall be powder coated.

14. Air Handling Unit (AHU)

Supply, Testing and Commissioning of Double Skin AHU (Air Handling Unit), with thermal breaker, with DX-Coil of 4000CFM, consisting of fan section with DIDW centrifugal fan with 125mm WG static pressure. The AHU shall be made of extruded aluminium

framework having plasticised G.I panels having injected 25mm PUF of 38 Kg/CUM density in between the drain pan of 16G aluminium in two layers having nitrile foam insulation in between. The extruded frame for motor and blower duly mounted with centrifugal backward curved blower along with electric motor, 10 micron rating washable pre filters and 5 micron rating washable fine filters, fire resistant flexible canvas connector, duct heater bank of strip heaters with geysersstat, humidistat. Inlet side twin column control dampers, actuator for CSD (ON / OFF type). DX coil section of 1/11 and 7/8, mixing box, mixing chamber with air VCD, 6 row deep DX cooling coil etc.

a. DOUBLE SKIN CASING:

- i. Outer skin 0.6 mm Pre- coated GI
- ii. Inner Skin 0.6 mm Plain G.I
- iii. Frame work Thermal break Al. profile with thermal barrier.
- iv. Thickness of insulated panels 25 mm Thick, CFC Free PUF injected (Density: 40 kg / Cu. m.)
- v. Material of Drain pan 18 G SS-304 tray duly insulated with 13 mm closed cell Nitrile insulation.
- vi. Unit Base GSS base channel

b. DX COIL: (R-22)

- i. Coil Casing/Blank offs GI
- ii. Material Of Tube Copper
- iii. Tube Dia (mm / inch) 9.5 mm / 3/8" O.D.
- iv. Thickness of tube (SWG / mm) 30 SWG / 0.31 mm
- v. Header Material Copper
- vi. Thickness & Material of fins 0.15 mm Plain Aluminum
- vii. No. of Fins per inch (FPI) 11 / 12

c. FILTERS:

- i. Make Of Filters AAF/Thermadyne or equivalent
- ii. Media of Filters Synthetic (non woven type).
- iii. Efficiency of Pre-filters (EU-4) 90 % down to 10 micron
- iv. Efficiency of Fine-filters (EU-5) 99 % down to 05 micron

d. FAN & MOTOR:

- i. Fan make Kruger / Nicotra / Comefri / Lau
- ii. Motor make ABB / CROMPTON / HAVELLS / MARATHON
- iii. Motor type TEFC Squirrel Cage IP 55 Protected VFD Compatible induction motor
- iv. Vibration isolator Rubber Mount

e. AHU SHALL HAVE

- i. Mixing box with manually operated FA & RA damper in AI construction.
- ii. Filter section with 50 mm thick (EU-4) box type pre filter.
- iii. Coil section with 6 row deep DX- cooling coil with single distributor.
- iv. Fan section with imported DIDW centrifugal backward curved fan, Drive set with V belt & Motor (EFF-2).
- v. Fine filter section with 305 mm thick (EU-5) flange type fine filter.
- vi. Manually operated SA damper in AI construction.

f. 11TR Outdoor unit for OTs and 5.5 TR x2

OPERATING & PHYSICAL PARAMETERS: (Minimum requirement)

Air Qty (CFM) 4000

SP (mm wg) 125

Fan Type BC

Fan Dia 355

Fan RPM 2461

Fan Outlet Velocity (m/s) 9.24

Shaft Absorbing Power 3.23

DX Coil RD 6

AHUs

AHUs should be CE certified for Electrical & Mechanical safety.

AHUs should be certified in accordance to EN-1886-1998 Certifications.

Mechanical Strength – Class 2A

Casing Air Leakage – Class B

Filter Bypass Leakage-Class F9

Thermal Bridging –Class TB2

Coils

All Coils should be AHRI certified as per test standard ARI-410.

All coils should be UL certified for safety.

Aluminum Ducting

Supply and return air ducts should be fabricated with high quality aluminum ducts with 22 G (0.80mm) and 24 G (0.63mm) respectively and in accordance with the approved shop floor drawing. Materials should confirm to IS 655 standards. All ducts should be insulated with 13mm nitrile rubber. All ducts joints should be flange type and all joints should be insulated with nitrile rubber and adhesive tape. All ducts should run through proper supports hanging from ceiling with MS suspenders complete with all fixing accessories.

Grills

Return air grills should be made off with extruded aluminum with powder coating. All return air grilles should be in single louvers without volume control dampers.

Fresh air opening should be covered with powder coated extruded aluminium louvers with bird screen, projection with frame and volume control damper with lever mounting arrangement etc as per approved layout.

Power cable

The power cable for outdoor unit, AHU, required switches, MCBs, distribution panels etc ha to be provided and the rate shall be included in the offer.

15. ELECTRICAL WIRING WORKS

Wiring with low leakage current wires of FRLs wires of R&R / Finolox make or as per requirements including providing and fixing of conduit and boxes etc to complete the work in all respect.

Wiring for 250 Volts single phases and neutral 6/16 amps switched socket outlet with 4 sq mm PVC insulated copper conductor 1100 volts grade stranded flexible wires in concealed surface mounted 25mm dia rigid PVC including providing and fixing of metal box.

16. The unit rates shall be offered wherever mentioned in the BOQ. For evaluation the quantity mentioned in BOQ will be taken. However the actual quantity for work may increase or decrease. The specification of civil works shall be as per the specification mentioned in the BOQ.