



Running Contract Details	
Equipment Name	MRI Machine 1.5T Normal Bore
Running Contract Valid Till	02-11-2020
Tender Ref No	KMSCL/EP/T279/635B/2018
Tendered Quantity	8
Supplier Name	M/s Wipro GE Healthcare Pvt Ltd
GST No	29AAACW1685J1ZW
Installation & Delivery Period	12 Week(s)
Up-time / PM vist	95% & 4 Visits per year
Warranty period	3 Years

Supplier`s Details		
Address	Contact Details	
No. 4 Kadugodi Industrial Area Whitefield Bangalore 560067	Contact Person	Mr. John Tenny
	Phone	080-28452923
	Mobile No	9895895006
	Email	tenny.john@ge.com

Item-wise Price Details

#	Item Details	Unit Rate (Incl.all taxes & charges)	Service Charges (Through KMSCL)	Grand Total
1	MRI Machine 1.5T Normal Bore <i>Model & Make : Signa Explorer 1.5 T / GE Healthcare/Wipro GE Healthcare</i>	55811352 Incl.GST :0%	4610017.68	60421369.68
2	Breast coil <i>Model & Make : GE</i>	800000 Incl.GST :0%	66080	866080
3	Dry Imager <i>Model & Make : CARESTREAM/FUJI/KODAK</i>	400000 Incl.GST :0%	33040	433040
4	Pressure injector with syringes (MR compatible)	1400000 Incl.GST :0%	115640	1515640
5	IV stand (MR compatible) <i>Model & Make : GE</i>	50000 Incl.GST :0%	4130	54130
6	Patient trolley (MR compatible) <i>Model & Make : GE</i>	300000 Incl.GST :0%	24780	324780
7	Hand held metal detector <i>Model & Make : GE/GARETT (part of machine supply from GE)</i>	15000 Incl.GST :0%	1239	16239

8	DVD and pen drive as spec <i>Model & Make : SONY / EQUIVALENT</i>	25000 Incl.GST :0%	2065	27065
9	Color laser printer <i>Model & Make : HP / EQUIVALENT</i>	50000 Incl.GST :0%	4130	54130
10	UPS <i>Model & Make : EATON</i>	620000 Incl.GST :0%	51212	671212
11	Fire extinguisher MR compatible <i>Model & Make : MARRSIS DISHA / EQUIVALENT</i>	45000 Incl.GST :0%	3717	48717
12	PC, UPS, scanner, printer with table and chair <i>Model & Make : HP / EQUIVALENT</i>	100000 Incl.GST :0%	8260	108260
13	Training <i>Model & Make : GE</i>	600000 Incl.GST :0%	49560	649560
14	MR Compatible Stethoscope <i>Model & Make : ALL-MRI GERMANY / EQUIVALENT</i>	30000 Incl.GST :0%	2478	32478
15	CIVIL WORKS : 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	2700 Incl.GST :0%	223.02	2923.02
16	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	4000 Incl.GST :0%	330.4	4330.4
17	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.	4000 Incl.GST :0%	330.4	4330.4
18	Dismantling old electrical points, wiring, lights and handing over the same to the hospital authorities	35000 Incl.GST :0%	2891	37891
19	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	2000 Incl.GST :0%	165.2	2165.2
20	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	350 Incl.GST :0%	28.91	378.91
21	Dismantling of toilet fittings including pipe lines , closets, washbasin etc to complete	25000 Incl.GST :0%	2065	27065

22	Anti- Termite treatment : Supplying chemical emulsion in sealed containers including delivery as specified. Chlorpyriphos/ Lindane emulsifiable concentrate of 20%	2000 Incl.GST :0%	165.2	2165.2
23	Diluting and injecting chemical emulsion for POST-CONSTRUCTIONAL anti- termite treatment (excluding the cost of chemical emulsion) : Along external wall where the apron is 10t provided using chemical emulsion @ 7.5 litres / sqm of the vertical surface of the substructure to a depth of 300 mm including excavation channel along the wall &rodding etc. complete: With Chlorpyriphos/ Lindane E.C. 20% with 1% concentration	150 Incl.GST :0%	12.39	162.39
24	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 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm 10minal size)	7500 Incl.GST :0%	619.5	8119.5
25	Earth work in surface excavation 10t exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift up to 1.5 m, disposed soil to be levelled and neatly dressed : All kinds of soil	800 Incl.GST :0%	66.08	866.08
26	Providing cable trench for system cables and wherever necessary with metal cover including finishing works and all allied works	1700 Incl.GST :0%	140.42	1840.42
27	Reinforced cement concrete work in beams, suspended floors, roofs having slope up to 15&deg landings, balconies, shelves, chajjas, lintels, bands, plain window sills, staircases and spiral stair cases up to floor five level excluding the cost of centering, shuttering, finishing and reinforcement with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm 10minal size).	8800 Incl.GST :0%	726.88	9526.88
28	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.	75 Incl.GST :0%	6.2	81.2
29	Brick work with common burnt clay F.P.S. (10n 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)	7500 Incl.GST :0%	619.5	8119.5

30	Half brick masonry with common burnt clay F.P.S. (10n modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level. Cement mortar 1:4 (1 cement :4 coarse sand)	1450 Incl.GST :0%	119.77	1569.77
31	12 mm cement plaster of mix : 1:4 (1 cement: 4 fine sand)	440 Incl.GST :0%	36.34	476.34
32	Providing and fixing Ist 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 : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete.	1050 Incl.GST :0%	86.73	1136.73
33	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's less than 0.08%and conforming to IS : 15622 of approved make in all colours and shades, laid on 20mm 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 600x600 mm	1200 Incl.GST :0%	99.12	1299.12
34	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.	1100 Incl.GST :0%	90.86	1190.86
35	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)	420 Incl.GST :0%	34.69	454.69

36	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)	440 Incl.GST :0%	36.34	476.34
37	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 both sides.	850 Incl.GST :0%	70.21	920.21
38	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 5.50 mm thickness	850 Incl.GST :0%	70.21	920.21
39	Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000mm) with double speed adjustment with necessary accessories and screws etc. complete.	2250 Incl.GST :0%	185.85	2435.85
40	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	600 Incl.GST :0%	49.56	649.56
41	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	900 Incl.GST :0%	74.34	974.34
42	Providing and fixing aluminium handles ISI marked a10dised (a10dic coating 10t less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete : 125 mm	250 Incl.GST :0%	20.65	270.65
43	Providing and fixing aluminium tower bolts ISI marked a10dised (a10dic coating 10t less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete : 250x10 mm	250 Incl.GST :0%	20.65	270.65

44	Providing and fixing aluminium tower bolts ISI marked a10dised (a10dic coating 10t less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete : 150x10 mm	225 Incl.GST :0%	18.59	243.59
45	Providing and applying plaster of paris putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.	200 Incl.GST :0%	16.52	216.52
46	Removing dry or oil bound distemper, water proofing cement paint and the like by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete.	100 Incl.GST :0%	8.26	108.26
47	Wall painting with plastic emulsion paint of approved brand and manufacture to give an even shade : One or more coats on old work	270 Incl.GST :0%	22.3	292.3
48	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade : One or more coats on old work	290 Incl.GST :0%	23.95	313.95

49	<p>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>900 Incl.GST :0%</p>	74.34	974.34
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50	<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 17, 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>	1350 Incl.GST :0%	111.51	1461.51
51	<p>Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade Old work (Two or more coats applied @ 1.43 ltr/ 10 sqm) over existing cement paint surface.</p>	350 Incl.GST :0%	28.91	378.91
52	<p>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.</p>	12000 Incl.GST :0%	991.2	12991.2

53	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.	2500 Incl.GST :0%	206.5	2706.5
54	Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing 10t less than 690gms. 15 mm 10minal bore	1400 Incl.GST :0%	115.64	1515.64
55	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.	600 Incl.GST :0%	49.56	649.56
56	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.	8000 Incl.GST :0%	660.8	8660.8
57	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 10t less than190gms.	2500 Incl.GST :0%	206.5	2706.5
58	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.	275 Incl.GST :0%	22.72	297.72
59	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.	400 Incl.GST :0%	33.04	433.04
60	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	440 Incl.GST :0%	36.34	476.34

61	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.	15000 Incl.GST :0%	1239	16239
62	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	120 Incl.GST :0%	9.91	129.91
63	Providing and fixing PVC Door Frame of size 50x47mm with a wall thickness of 5 mm (&plusmn 0.2 mm) made out of single piece extruded PVC profile, with mitred cut joints and joint with 210s of PVC bracket of size 190 mm x 100 mm long arms of cross section size 35 x 15mm & self driven self tapping 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.	380 Incl.GST :0%	31.39	411.39
64	35 mm thick factory made Solid panel PVC Door shutter made out of single piece extruded solid PVC profiles, 5 mm (&plusmn 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 mitred 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. 10n decorative finish (matt finish).	2800 Incl.GST :0%	231.28	3031.28

65	Providing and laying rectified Glazed Ceramic floor tiles 300x300 mm or more (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours White, Ivory, Rey, Fume Red Brown, laid on 20mm thick cement mortar 1:4 (1Cement : 4 Coarse sand) including grouting the joints with white cement and matching pigments etc., complete.	1375 Incl.GST :0%	113.58	1488.58
66	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length (hold fast lugs or dash fastener shall be paid for separately), using good quality Anjili wood /jack wood	90000 Incl.GST :0%	7434	97434
67	Providing and fixing paneling or paneling and glazing in paneled or paneled and glazed shutters for doors, windows and clerestory windows (Area of opening for panel inserts excluding portion inside grooves or rebates to be measured) paneling for paneled or paneled and glazed shutters 25 mm to 40 mm thick using good quality Anjili/ Jack wood	22000 Incl.GST :0%	1817.2	23817.2
68	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).	1600 Incl.GST :0%	132.16	1732.16
69	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. (Total area of the shutter only measured).	1800 Incl.GST :0%	148.68	1948.68
70	Steel cupboard (Godrej) for storage 6ft tall 3 feet width	27000 Incl.GST :0%	2230.2	29230.2
71	Cubicle curtain with hanger : Should be track and curtain type, 2. Track shall be made of high quality aluminum, 3. Should have stain free curtain material, 4. Manual operation, 5. Per meter rate for aluminum track and curtain material shall be offered	1000 Incl.GST :0%	82.6	1082.6
72	AC TRAP DOOR with multiwood panelling	9000 Incl.GST :0%	743.4	9743.4

73	Computer table (long) with keyboard tray, CPU storage at base in a side and storage drawers at other side. (For workstation and reports) reputed brand godrej/featherlite/wipro	27500 Incl.GST :0%	2271.5	29771.5
74	Revolving chair - Pushback, PU arms, Pneutic height adjustment and nylon base. Reputed brand like godrej/featherlite/wipro	8500 Incl.GST :0%	702.1	9202.1
75	MISCELLANEOUS WORKS:- Suppling and fxing Name boards for all rooms and main entrance board	10000 Incl.GST :0%	826	10826
76	Site cleaning	30000 Incl.GST :0%	2478	32478
77	Supply, Installation, Testing & Commissioning of LT Panel , cubicle type, made out of 2mm thick CRCA sheet,totally enclosed, IP 42, free standing, floor mounting, dust and vermin proof, indoor, compartmentalised, suitable for operation on 3 phase , 415 V, 50Hz AC system with busbars , including internal wiring with suitable size HFFR wires/cable, interconnection, duly powder coated with seven tank process etc., including all inter connections and following components as per drawing and technical specifications. INCOMER 400 A FP 75kA MCCB with adjustable thermal magnetic release with OL & SC protection - 1 10s. BUSBARS 400 Ampere TPN busbars of Aluminum alloy high conductivity with heat shrinkable coloured sleeves INSTRUMENTS Digital type multifunction meter with CTs of suitable rating for measurement of voltage, current, frequency, power factor, KVA, KW, KWH. - 1 10 ON/OFF indication lamps-1set RYB Indicating lamps LED type - 3 10s. OUTGOINGS 320A FP. 50kA MCCB with adjustable thermal magnetic release with OL & SC protection - 1 10s. 100A/63A FP 25kA MCCB with thermal magnetic release with OL & SC protection - 3 10s.	210000 Incl.GST :0%	17346	227346

78	<p>Supply, Installation, Testing & Commissioning of LT Panel(UPS) , cubicle type, made out of 2mm thick CRCA sheet,totally enclosed, IP 42, free standing, floor mounting, dust and vermin proof, indoor, compartmentalised, suitable for operation on 3 phase , 415 V, 50Hz AC system with busbars , including internal wiring with suitable size HFFR wires/cable, interconnection, duly powder coated with seven tank process etc., including all inter connections and following components as per drawing and technical specifications. INCOMER 320 A FP, 50kA MCCB with adjustable thermal magnetic release with OL & SC protection - 1 10s. 400 Ampere TPN busbars of Aluminum alloy high conductivity with heat shrinkable coloured sleeves INSTRUMENTS ON/OFF indication lamps-1set RYB Indicating lamps LED type - 3 10s. Voltmeter(0-500V) with selector switch - 1 10. Ammeter (0-400A) - 3 10. OUTGOINGS 250 A FP 50 kA MCCB with adjustable thermal magnetic release with OL & SC protection - 1 10s. 63 A FP 25kA MCCB with thermal magnetic release with OL & SC protection - 2 10s.</p>	210000 Incl.GST :0%	17346	227346
79	<p>Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, 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) TPN, MCB DB, 4 way (4+12), double door, horizontal type</p>	7000 Incl.GST :0%	578.2	7578.2
80	<p>Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, 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) TPN, MCB DB, 4 way (8+12), double door, horizontal type</p>	9000 Incl.GST :0%	743.4	9743.4
81	<p>Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, 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) TPN, MCB DB, 6 way (4+18), double door, horizontal type</p>	11000 Incl.GST :0%	908.6	11908.6

82	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, 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) TPN, MCB DB, 6 way (8+18), double door, horizontal type	12000 Incl.GST :0%	991.2	12991.2
83	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A, tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required. (10te : Vertical type MCB TPDB is 10rmally used where 3 phase outlets are required.) 4 way (4+12), TPN, vertical type, MCB DB, double door	11500 Incl.GST :0%	949.9	12449.9
84	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A, tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required. (10te : Vertical type MCB TPDB is 10rmally used where 3 phase outlets are required.) 8 way (4+24), TPN, vertical type, MCB DB, double door	13000 Incl.GST :0%	1073.8	14073.8
85	Supplying and fixing of following ways surface/ recess mounting, vertical type, 415 V, TPN MCB distribution board of sheet steel, dust protected, duly powder painted, inclusive of 200 A, tinned copper bus bar, common neutral link, earth bar, din bar for mounting MCBs (but without MCBs and incomer) as required. (10te : Vertical type MCB TPDB is 10rmally used where 3 phase outlets are required.) 8 way (8+24), TPN, vertical type, MCB DB, double door	14500 Incl.GST :0%	1197.7	15697.7
86	Supplying and fixing 5 A to 32 A rating, 240/415 V, 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 6 A. to 32 A. ratings "B/C" curve	600 Incl.GST :0%	49.56	649.56
87	Supplying and fixing 5 A to 32 A rating, 240/415 V, 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. 6 A. to 32 A. ratings , DP MCB, "C" curve, 10 kA breaking capacity	800 Incl.GST :0%	66.08	866.08

88	Supplying and fixing Following rating 415 V, 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. 63A TP MCB, C-CURVE MCB	1200 Incl.GST :0%	99.12	1299.12
89	Supplying and fixing Following rating 415 V, 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. 32A TP MCB, C-CURVE MCB	1100 Incl.GST :0%	90.86	1190.86
90	Supplying and fixing Following rating 415 V, 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. 63A FP Isolator	1800 Incl.GST :0%	148.68	1948.68
91	Supplying and fixing Following rating 415 V, 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. 32A FP Isolator	600 Incl.GST :0%	49.56	649.56
92	Supplying and fixing following rating, four pole, 415 V, RCBO having a sensitivity current 100 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required. 100 A 4 Pole	4500 Incl.GST :0%	371.7	4871.7
93	Supplying and fixing following rating, four pole, 415 V, RCBO having a sensitivity current 100 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required. 63 A 4 Pole	3500 Incl.GST :0%	289.1	3789.1
94	Supplying and fixing following rating, four pole, 415 V, RCBO having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required. 40A	3000 Incl.GST :0%	247.8	3247.8
95	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.	1200 Incl.GST :0%	99.12	1299.12
96	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.	1400 Incl.GST :0%	115.64	1515.64

97	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.	2500 Incl.GST :0%	206.5	2706.5
98	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	290 Incl.GST :0%	23.95	313.95
99	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 1.5 sq. mm + 2 X 1.5 sq. mm earth wire	450 Incl.GST :0%	37.17	487.17
100	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	440 Incl.GST :0%	36.34	476.34
101	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 2.5 sq. mm + 2 X 2.5 sq. mm earth wire	390 Incl.GST :0%	32.21	422.21
102	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	500 Incl.GST :0%	41.3	541.3
103	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	680 Incl.GST :0%	56.17	736.17
104	Supply and fixing medium type PVC pipes 20 / 25 mm in surface / recess	150 Incl.GST :0%	12.39	162.39
105	Supplying and installing the following sizes of M.S. Conduits & Conduit, pipe Accessories and cutting the conduit to required size & bending the conduit to the required shapes fixing on ceiling/floor/wall in position as per specifications 25 mm dia M.S. Conduit with Accessories	300 Incl.GST :0%	24.78	324.78

106	Supplying and installing the following sizes of M.S. Conduits & Conduit, pipe Accessories and cutting the conduit to required size & bending the conduit to the required shapes fixing on ceiling/floor/wall in position as per specifications 40 mm dia M.S. Conduit with Accessories	590 Incl.GST :0%	48.73	638.73
107	Supplying and installing the following sizes of M.S. Conduits & Conduit, pipe Accessories and cutting the conduit to required size & bending the conduit to the required shapes fixing on ceiling/floor/wall in position as per specifications 50mm dia M.S. Conduit with Accessories	800 Incl.GST :0%	66.08	866.08
108	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in existing/recessed steel/ PVC conduit as required. 1 run of cable	180 Incl.GST :0%	14.87	194.87
109	Supplying and drawing of UTP 4 pair CAT 6 LAN Cable in existing/recessed steel/ PVC conduit as required. 2 run of cable	300 Incl.GST :0%	24.78	324.78
110	Supplying and drawing following pair 0.5 sq mm FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required. 2 Pair Cable	70 Incl.GST :0%	5.78	75.78
111	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	1300 Incl.GST :0%	107.38	1407.38
112	Group control Wiring for light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface/ recessed PVC conduit, with modular switch& plate,suitable GI box and earthing the point with 1.5sq.mm FRLS PVC insulated copper conductor single core cable etc as required. 2 Light Controlled by a 6A Switch	1250 Incl.GST :0%	103.25	1353.25
113	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 RJ 11	250 Incl.GST :0%	20.65	270.65
114	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required. CAT 6 RJ 45 computer jack	250 Incl.GST :0%	20.65	270.65

115	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc as required. 1 or 2 Module (75mmX75mm)	800 Incl.GST :0%	66.08	866.08
116	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc as required. 3 Module (100mmX75mm)	950 Incl.GST :0%	78.47	1028.47
117	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 10's 5 pin 5/6 amps modular socket outlet and 1 10: 16 amps modular switch, connection etc. as required.	700 Incl.GST :0%	57.82	757.82
118	8 Module (single row)	1200 Incl.GST :0%	99.12	1299.12
119	Supplying and Fixing of Wall / Ceiling mounted type IP 65 circular LED fitting, 18 W along with LED lamp	2800 Incl.GST :0%	231.28	3031.28
120	Supplying and Fixing of Wall / Ceiling mounted type IP 65 LED fitting, 30W 2 Ft x 2Ft along with LED lamp	4500 Incl.GST :0%	371.7	4871.7
121	Supplying and Fixing of 6/7 W bayonet cap type LED bulb in the existing angle batton etc as required (Philips, Wipro or similar superior make)	1200 Incl.GST :0%	99.12	1299.12
122	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Aluminium power cable of 1.1KV grade of 3.5C x 250 sq.mm in following ways including all necessary accessories as required. In existing masonry open duct / wall / underground cable trench	1800 Incl.GST :0%	148.68	1948.68
123	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 120 sq.mm in following ways including all necessary accessories as required. the existing masonry open duct	7500 Incl.GST :0%	619.5	8119.5
124	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 120 sq.mm in following ways including all necessary accessories as required. on wall surface ((clamped with 1mm thick saddle))	8000 Incl.GST :0%	660.8	8660.8

125	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 95 sq.mm in following ways including all necessary accessories as required. the existing masonry open duct	6000 Incl.GST :0%	495.6	6495.6
126	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 95 sq.mm in following ways including all necessary accessories as required. on wall surface ((clamped with 1mm thick saddle))	6300 Incl.GST :0%	520.38	6820.38
127	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 70 sq.mm in following ways including all necessary accessories as required. the existing masonry open duct	4500 Incl.GST :0%	371.7	4871.7
128	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 70 sq.mm in following ways including all necessary accessories as required. on wall surface ((clamped with 1mm thick saddle))	5000 Incl.GST :0%	413	5413
129	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 50 sq.mm in following ways including all necessary accessories as required. the existing masonry open duct	3300 Incl.GST :0%	272.58	3572.58
130	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 50 sq.mm in following ways including all necessary accessories as required. on wall surface ((clamped with 1mm thick saddle))	3700 Incl.GST :0%	305.62	4005.62
131	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 25 sq.mm in following ways including all necessary accessories as required. the existing masonry open duct	2300 Incl.GST :0%	189.98	2489.98
132	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 25 sq.mm in following ways including all necessary accessories as required. on wall surface ((clamped with 1mm thick saddle))	2700 Incl.GST :0%	223.02	2923.02

133	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 16 sq.mm in following ways including all necessary accessories as required. the existing masonry open duct	1600 Incl.GST :0%	132.16	1732.16
134	Supplying, laying and fixing of one number PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade of 4C x 16 sq.mm in following ways including all necessary accessories as required. on wall surface ((clamped with 1mm thick saddle))	2000 Incl.GST :0%	165.2	2165.2
135	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade as required. 4C x 120 sq.mm	7000 Incl.GST :0%	578.2	7578.2
136	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade as required. 4C x 95 sq.mm	3500 Incl.GST :0%	289.1	3789.1
137	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade as required. 4C x 70 sq.mm	3000 Incl.GST :0%	247.8	3247.8
138	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade as required. 4C x 50 sq.mm	3000 Incl.GST :0%	247.8	3247.8
139	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade as required. 4C x 25 sq.mm	2000 Incl.GST :0%	165.2	2165.2
140	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed/XLPE 2, Armoured, Copper power cable of 1.1KV grade as required. 4C x 16 sq.mm	2000 Incl.GST :0%	165.2	2165.2

141	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.	30000 Incl.GST :0%	2478	32478
142	Providing and fixing earth bus of 50 mm X 5 mm copper strip on surface for connections etc. as required. copper strip at 0.50 metre below ground as strip earth electrode, including connection/ terminating with nut, bolt, spring, washer etc. as required. (Jointing shall be done by overlapping and with 2 sets of brass nut bolt & spring washer spaced at 50mm)	900 Incl.GST :0%	74.34	974.34
143	Providing and fixing earth bus of 25 mm X 3 mm copper strip on surface for connections etc. as required. 1C 35 Sqmm Cu Cable for Earthing Conductor	750 Incl.GST :0%	61.95	811.95
144	Providing and Fixing 4mm dia copper wire on surface or in recess for loop earthing as required	250 Incl.GST :0%	20.65	270.65
145	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	200 Incl.GST :0%	16.52	216.52

Item-wise Price Details

147	P/making 50 x 200mm Raceways, Junction boxes including junction boxes covers and raceway covers suitably supported/chased in floor/wall fabricated from 2mm sheet steel with two coats primer and paint and provided with gaskets etc. incl. Bends/filings & accessories as reqd.	600 Incl.GST :0%	49.56	649.56
148	P/making and fixing in position cable tray made out of hard wood, jointed in 10n- ferrous, 10n-magnetic nails screws etc. complte including hangers, painted in fire retardant paint complete as per the instructions of Engineer incharge. 300 x 75mm	750 Incl.GST :0%	61.95	811.95
149	Supplying ,Installation, testing and commissioning of 1200 mm ceiling fans with BEE 5 star rating for energy efficiency, including wiring the down rods of standard length (upto 30cm) with 1.5sq mm FR PVC insulated, copper conductor single core cable etc as required.	4500 Incl.GST :0%	371.7	4871.7
150	Supplying and fixing 2 module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	800 Incl.GST :0%	66.08	866.08

151	Supply, Installation, testing and comissioning of residential type light duty exhaust fan 900-1350 rpm, 250 mm, in plastic housing light duty in the existing opening, including louver shutter, making the hole to suit the size of the above fan, making good the damage, connection, testing commissioning etc as required	2500 Incl.GST :0%	206.5	2706.5
152	24-Port Gigabit manageable smart Network Switch with 2 SFPs. Rack mountable	35000 Incl.GST :0%	2891	37891
153	Patch panel - 24-Port patch panel with cable tray. Rack mountable	8000 Incl.GST :0%	660.8	8660.8
154	4U Rack- Wall Mountable including 4x 6Amp power distribution box	7000 Incl.GST :0%	578.2	7578.2
155	Supply of branded 1mtr patch cords with cat 6 cable.	200 Incl.GST :0%	16.52	216.52
156	Supply of branded 2mtr patch cords with cat 6 cable.	250 Incl.GST :0%	20.65	270.65
157	Supply of branded 3mtr patch cords with cat 6 cable.	400 Incl.GST :0%	33.04	433.04
158	Ductable A/C units 11 TR x 2 10's (2 outdoor unit of 11TR and 2 AHU) Low side works for complete installation & commissioning of AC Supply, installation, testing & commissioning of 11 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. The two units shall work alternatively. Should have provision to change automatically in prefixed time. Should also have provision to control both unit manually. Quote rate for 2 11TR outdoor and indoor unit with ducting and other accesories.	1200000 Incl.GST :0%	99120	1299120
159	Suitable De- Humidifier units : Extraction at least 35 litres/day, compresor : rotary, Air flow : at least 220m3/hr, reputed brand, input 230Vac	55000 Incl.GST :0%	4543	59543
160	Charges for obtaining electrical inspectorate's approval and regularizing with KSEB	150000 Incl.GST :0%	12390	162390

161	Supply and installation of portable fire extinguisher (4 kg) with wall mounted for fire type ABC classification	6500 Incl.GST :0%	536.9	7036.9
162	Providing and fixing in position CO2 type fire extinguisher of 5kg Capacity	6000 Incl.GST :0%	495.6	6495.6
163	2 tonne Split air conditioner with copper condensor / evaporator coil 3star or above with stabilizer complete installation and commissioning (rate for 1 10) with copper pipes and drain	75000 Incl.GST :0%	6195	81195
164	Providing installing, connecting, testing and commissioning Heat Detectors type with mounting base, blinking LED as required complete and integration	4000 Incl.GST :0%	330.4	4330.4
165	Supplying, installation, testing and commissioning of Conventional Photoelectric Smoke detectors as required to connect with existing system	5500 Incl.GST :0%	454.3	5954.3
166	Providing and fixing of response indicator as required	3500 Incl.GST :0%	289.1	3789.1
167	Conventional Single -Zone Fire Panel with batteries, battery charger mimic diagram etc	60000 Incl.GST :0%	4956	64956
168	Constructing & later demolishing the unloading masonry platform	11000 Incl.GST :0%	908.6	11908.6
169	Vaccum cleaner power atleast : 1300Watts, input 230Vac, eureka forbes or equivalent	15000 Incl.GST :0%	1239	16239
170	Fencing (PVC coated Chain link) for out side of Chiller plant including frame work, concreting, painiting, etc complete, also seperate gate with locking arrangement to be provided.	50000 Incl.GST :0%	4130	54130
171	Shed for Chiller - 0.5mm thick Aluminium sheet including truss work, post to be provided for the chiller area. Painting to be done for structures	250000 Incl.GST :0%	20650	270650
172	MR Compatible pipe for medical gas	2000 Incl.GST :0%	165.2	2165.2
173	MR compatible outlet	5000 Incl.GST :0%	413	5413
174	MR compatible flowmeter with humidifier	4000 Incl.GST :0%	330.4	4330.4
175	MR compatible wall mounted suction jar	4000 Incl.GST :0%	330.4	4330.4
176	Endo-rectal coil <i>Model & Make : MADRAD</i>	4500000 Incl.GST :0%	371700	4871700
177	Anaesthesia Machine (MR compatible) <i>Model & Make : GE</i>	3350000 Incl.GST :0%	276710	3626710
178	Ventilator (MR compatible) <i>Model & Make : SMITH MEDICAL ParaPACâ,, ç plus / EQUIVALENT</i>	1250000 Incl.GST :0%	103250	1353250

179	Infusion pump (MR compatible) <i>Model & Make : BBRAUN / EQUIVALENT</i>	2050000 Incl.GST :0%	169330	2219330
180	Ductable A/C units 8.5 TR x 2 10's (2 outdoor unit of 8.5TR and 2 AHU) 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. The two units shall work alternatively. Should have provision to change automatically in prefixed time. Should also have provision to control both unit manually. Quote rate for two 8.5TR outdoor and indoor unit with ducting and other accesories.	900000 Incl.GST :0%	74340	974340
181	Pulse oximeter (MR compatible) <i>Model & Make : NONIN / EQUIVALENT</i>	750000 Incl.GST :0%	61950	811950
182	Patient monitoring system (MR compatible) <i>Model & Make : Tesla</i>	6500000 Incl.GST :0%	536900	7036900
183	Stereotaxy if available <i>Model & Make : ELEKTA / EQUIVALENT</i>	14500000 Incl.GST :0%	1197700	15697700
184	Dedicated Wrist coil <i>Model & Make : GE</i>	2500000 Incl.GST :0%	206500	2706500
185	High end Functional MRI with paradigm generator and other related harware and software <i>Model & Make : TELEMED / EQUIVALENT</i>	13500000 Incl.GST :0%	1115100	14615100
186	Low end Functional MRI with laptop, projector and other related harware and software <i>Model & Make : TELEMED / EQUIVALENT</i>	10500000 Incl.GST :0%	867300	11367300
		123589192	10208467.26	133797659.26



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
MRI Machine 1.5T Normal Bore							
Labour	9,75,000.0 0	9,98,000.0 0	10,50,000. 00	11,50,000. 00	12,50,000. 00	13,40,000. 00	14,50,000. 00
Comprehensive	25,15,280. 00	26,39,151. 00	27,71,109. 00	29,09,664. 00	29,50,000. 00	29,50,000. 00	29,50,000. 00

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 :MRI Machine 1.5T Normal Bore

The system should be optimised for higher performance in cardiovascular, neuroradiological and other body examination having high homogeneity, stable superconducting magnet with high performance gradient and digital radiofrequency system with matching multichannel coils.

1. MAGNET SYSTEM
 - 1 The magnet should be 1.5 Tesla active shielded superconducting, light weight with optimum acceptable level of homogeneity.
 - 2 The magnet should be of shortest length as possible.
 - 3 Details of number of plane plot used for measurement as well as number of measurement point per plane should be clearly specified and should not be less than 20.

4 The horizontal diameter of the magnet tunnel should be adequate with flared end so as to accommodate bulkiest of patient and to provide maximum comfort and no claustrophobia. Bore should be wide with at least 60 cms.

5 The magnetic tunnel should have better illumination, ventilation and music system.

6 The front panel of the magnet should display the physiological parameter selected

7 Emergency helium release button should be provided at least in two places (inside MR examination room and console room).

8 Built in 2 way intercom facility to communicate with patient should be available between gantry room and console room.

2 SHIM SYSTEM

1 Global and localised, manual and auto shimming is required for a high homogeneity magnetic field for high resolution imaging and spectroscopy.

2 Type of shim, Active, Passive, Combination of both.

3 Provide details of higher order shim coils as optional items.

4 Give details about extended shim system.

3 PATIENT TABLE

1 Fully motorised with horizontal, vertical movements and should be computer controlled.

2 Position accuracy should be highest in all scannable range.

3 High accuracy of repositioning.

4 Longitudinal movement of the table should be optimum for CE MRA and peripheral Angiography.

5 Table should withstand a patient load of 150 kg or more.

- 6 Table top width should be more than 50 cm.
- 7 Table should have facility for emergency manual retraction.
- 8 The table should be provided with automatic bolus tracing.
- 9 Table should be provided with self storing nonferrous i/v pole, i/v injector board and arm support.
- 10 For monitoring patient in the table, a colour CC TV and camera with zoom and pan facility of appropriate size and good resolution from standard manufacturer should be provided.
- 11 Distal display of table position to be provided.
- 12 Automatic positioning of patient table without laser.
- 13 Table control from console to start and stop a scan.
- 14 Step table movement must be available. This should deliver protocols for automatic bolus chasing in peripheral Angiography. The effective field of view for such Z axis coverage should be at least 1.4 metre.
- 15 Type of light localiser for patient position.
- 16 One button isocentre positioning to be present.
- 17 Home positioning just by push button.
- 18 Immediate table release and manual table move from gantry in case of emergency.
- 19 All parts of the table should be protected from liquid spill.
- 20 Provide Patient immobilisation devices; e.g. Security straps and cushions etc.
- 21 All patient essential accessories and comfort aid to be provided.
- 22 Hand held patient alarm system should be present.

23 Music entertainment for patient (integrated, inclusive of CD disc interface).

4 GRADIENT SYSTEM

1 The actively shielded gradient system should have a gradient minimum 33mT/M per axis with an adequately small rise time to have a slew rate of minimum 120 m T/M/ m sec per axis with 100% duty cycle. The gradient should be capable of delivering larges field of view in all three axes.

2 Capable of performing single shot EPI. High order of stability, linearity and minimum acoustic noise is required

3 Accessories to be provided to reduce acoustic noise in fast and EPI mode in the magnet.

4 The minimum TE in gradient echo 2D/3D should be smallest at 256 x 256 matrix.

5 The minimum TR in gradient echo 2D/3D should be smallest at 256 x 256 matrix.

6 Measurement matrix should be highest in both 2D and 3D imaging.

7 The Gradient system should have provision for eddy current compensation.

8 Largest field of view with guaranteed homogeneity of ± 1 ppm in the equipment.

9 Max FOV available on all three axes x, y and z should be 45 cms or better.

10 Minimum TR, TE and slice thickness in EPI including other imaging modes and minimum volume in spectroscopy. Measurement Matrix 128 X 128 to 1024 X 1024 in 2D and 3D 642, 1282, 2562, 5122, 10242.

11 Mechanism/safety measures to avoid peripheral nerve stimulation by high gradient stimulation to be present.

5 RF SYSTEM

1 RF system should be fully digital, solid state and broad band capable of EPI.

2 It should be of latest technology like TIM/GEM/dStream or equivalent to enhance workflow. The coils to be connected to the magnet simultaneously- 3 or more.

3 Digital transmitter should be capable of precise frequency and phase control RF pulses with the smallest incremental frequency range of 1 KW with transmit power of at least 10 KW.

4 The RF system should have multiple independent RF receiving channels of each having band width of 1 MHz or more.

5 The number of available channels in the system/coil should be minimum 16 channels with 16 pre-amplifiers and 16 ADC.

6 RF system should support advance neurological, cardiac, body and spectral imaging.

7 System should have necessary hardware to support quadrature phased array and flexi coils.

8 RF system should support MR spectroscopy and received dynamic range should be > 130 decibel.

9 System should be compatible with parallel imaging technique.

10 . Range receiver band width Receiver Minimum 1 MHz per channel (not sampling bandwidth).

11 Phase resolution 0.1 degree/step or better.

12 Coil tuning, impedance matching, RF power parameter and pre-amplification gain adjustment must be fully computer automated and optimised for each patient.

13 All multi channel coils should have built in pre-amplification to ensure high SNR.

14 Study of abdomen, hip etc. should be parallel imaging compatible.

15 System should include excellent RF room shielding and include RF door screen to minimise radio frequency (RF) interference to a minimum level.

16 Best quality steel/copper (imported) standard free standing RF cabin.

6 RF COILS

1 The following multichannel coils should have the following capabilities for dedicated purposes.

a Coils with higher number of elements and channels are required.

- b Coil to be selected from console.
- c Coil should be capable of parallel acquisition technique.
- 2 The cost of body, head, NV, spine and flex coil shall be included in the cost of the machine. The cost of breast coil and knee coil will be taken for evaluation.
- 1 High quality quadrature/circular polarised (CP) body coil (integrated to magnet).
- 2 Body coil 12 or more Channels compatible with parallel imaging technique for scan time reduction factor of 4 or better. Parallel imaging in all directions and without any compromise should be possible with all sequences and number of receive channels offered in the system should not restrict usage of parallel imaging in any way to the above factors. The rate of this coil shall be included in the rate offered for the main equipment.
- 3 Body coil must be actively decoupled during surface coil imaging.
- 4 Brain study should be possible with suitable hardware and software.
- 5 Head coil 12 or more channels with parallel imaging technique compatibility up to factor 4 or better. Parallel imaging in all directions and without any compromise should be possible with all sequences and number of receive channels offered in the system should not restrict usage of parallel imaging in any way to the above factors. The rate of this coil shall be included in the rate offered for the main equipment.
- 6 NV coil for Angiography 16 channels or more and coverage from Aortic Arch to the circle of Willis with scan time reduction factors of 4 or better. Rate to be quoted separately and the rate offered will be taken for evaluation.
- 7 CP phased array spine coil 16 channels or more for cervical, thoracic and lumbar spine imaging with parallel imaging compatibility. The rate of this coil shall be included in the rate offered for the main equipment.
- 8 Dedicated Breast Coil 6 channels or more; imaging of both breasts – in single

acquisition. Rate to be quoted separately and the rate offered will be taken for evaluation.

- 9 Cardiac imaging; Cardiac MRI should be possible with suitable hardware and software. Rate should be quoted separately and it will not be taken for evaluation.
- 10 Hardware required for imaging- two general purpose flexible coils (flexi coil inter phase).
- 11 . Dedicated Phased Array coils suitable for shoulders, extremity, knee and other joints (including TMJ) applications with minimum 8 channels, parallel imaging factor 2 or better. The rate of this coil shall be included in the rate offered for the main equipment.
- 12 Coil suitable for the study of small parts like finger. Rate to be quoted separately and the rate offered will not be taken for evaluation.
- 13 Suitable coil if available for high quality lower peripheral Angiography in multi-station Angiography study combinable with parallel imaging technique for avoiding venous contamination in lower peripherals shall be quoted separately and the rate offered will not be taken for evaluation.
- 14 Suitable Endo-rectal coil for high resolution imaging of prostate, Rectum, Cervix and related area. Rate to be quoted separately and the rate offered will not be taken for evaluation
- 15 Other options in coils (additional “dedicated coils” like pelvic coil, neck coils, wrist coils, small and large shoulder coils, extremity coils and more, if available) to be quoted separately and rate to be quoted separately and the rate offered will not be taken for evaluation. If rates are offered for any additional coils in the BOQ the details should be provided in the offer form. If not available then the rate in the respective column of BOQ shall be marked as ‘0’.

7 HOST COMPUTER

- 1 Efficient fast, powerful and latest in industry with sufficient memory and computational speed to perform high speed imaging, interactive angiograms,

multiplanar reconstruction, surface rendering, dynamic imaging and other application; echo planar imaging.

2 Necessary image processor with sufficiently large memory for ultra fast image reconstruction capable of performing real time image reconstruction in 2 mms or less for the above application mode and dedicated hardware for data conditioning and digital filtering.

3 . The system should have integrated CD/DVD/Blu-ray archiving facility on the main console for storage of images in 256 matrix.

4 The main console should be capable of acquisitions, calculations, post processing etc. including MIP, MPR, perfusion, BOLD maps, ADC maps for diffusion imaging and metabolite maps for spectroscopic data.

5 Necessary image processor with sufficiently large memory for ultra fast image reconstruction capable of performing real time image reconstruction in 50 ms or less for the above application mode and dedicated hardware for data conditioning and digital filtering.

6 Main Memory (minimum 8 GB RAM) Expandable.

7 Image RAM capacity, 2 GB or more.

8 . It should have hard disc with capacity to store largest number of uncompressed image of 256 x 256 matrix size image with at least 512 GB storage for image and raw data.

9 Erasable disc drive for dynamic data manipulations.

10 DICOM 3 (or newer) interface to hook DICOM laser camera, PACS and other DICOM compatible modalities.

11 To be compatible with standard RIS also without additional software or hardware.

12 Image display of 1024 X 1024 matrix.

13 Necessary operating system of latest version.

14 Acquisition of next sequence must be possible while the image for last

sequence is being reconstructed.

15 The possibility of automatically displaying images immediately after reconstruction should be available.

16 Automatic display of reconstructed images.

17 Simultaneous use of the main console for other task to be possible.

18 Parallel scan and reconstruction and display should be possible.

8 OPERATORS CONSOLE

1 Monitor size at least 18" LED/LCD type colour monitor magnetically shielded.

2 Display matrix – 1024 X 1024.

3 Integrated post processing on console – all high-end applications such as cardiac quantification, processing for diffusion and perfusion weighted imaging, BOLD and MR spectroscopy analysis to be available on the main console or in workstation.

4 The pulse sequences must be variable and controllable from the operator console.

5 The operator will control slice thickness, number of slice technique parameters and sequence initiation.

6 The computer will control the sequencing operation.

7 Image documentation to be possible from the main console.

8 Integrated patient physiological signal monitoring (ECG, respiration and pulse) should be standard on console.

9 Gating hardware for ECG, Pulse, respiration etc to be provided and display available in OPERATORS CONSOLE ROOM.

10 Availability of additional display of physiological data in the examination room.

11 Remote and on magnet display of gating signal.

- 12 . Operator's console to have the following.
- a Emergency scan abort capability.
 - b . Manual Over rise.
 - c Audio system for communication.
 - d Room oxygen level indicator should not be integrated with the machine.
 - e Details of gradient cooling – Amplifier Gradient coils.
- 9 OEM Multi-Modality Workstation With Colour Display
- 9.1 Identical in performance as main measurement console and having same user interface (controllable from the keyboard and mouse facility) with evaluation capabilities like MIP, MPR, surface reconstruction, spectral analysis etc.
- 1 It must be completely independent to allow totally unconstrained operation.
 - 2 Main Memory (minimum 8 GB RAM)- expandable.
 - 3 Hard disc storage capacity of 1 TB or higher, If less than 1 TB to supply external disc.
 - 4 CD/DVD/Blu-ray writer to be included.
 - 5 Colour monitor 18" LCD/LED/TFT colour monitor–1280 X 1024 pixel resolution or better.
 - 6 Necessary interface for data transfer, along with recording and display facility must be provided.
 - 7 The image format must conform to ACR-NEMA format; standard- DICOM 3 or newer versions.
 - 8 Image documentation to be possible from the additional workstation also.
 - 9 Display of cardiac cine images in movie mode.
 - 10 Provide dedicated cardiac package on console or additional workstation.

- 11 Calculation of ventricular area and volume, stroke volume, ejection fraction and relative ejection fraction etc to be available in Additional work station also.
- 12 Calculation of myocardial thickness, mass and signal intensity for multiple myocardial segments to be provided.
- 13 . Time volume diagram generation, filling rates and myocardial wall motion.
- 14 Graphic display of output calculation of flow and velocity parameter with colour coded display of velocity parameters.
- 15 Complete comprehensive cardiac post processing software to be provided with regular upgrades in future.
- 16 . Processing of 2D/3D CSI (Chemical Shift Imaging) with parametric metabolic mapping
- 17 . Post processing of BOLD data sets for colour overlay of functional and anatomical data to be real time.
- 18 Should have capability to calculate/colour display of MTT, regional (r) CBV, regional (r) CBF.
- 19 . Analysis of vessel disease with the possibility of detection of vessel segments and to quantify changes in vessel size.
- 20 . 3D VRT software for visualisation of complex anatomy.
- 21 . Complete 3D reformation package.
- 22 . Workstation to be provided with a workstation table and two numbers of ergonomically designed operator chair.
- 23 Compatible with data from high resolution MRI Units.
- 24 . Required Interface for existing equipments (CT, MRI, Ultrasonography, DSA) and PACS.

10 DATA ACQUISITION

- 1 System should be capable of 2D and 3D acquisitions in conventional, fast, ultra fast spin echo and gradient echo modes so that real time online images can be observed.
- 2 2D multi slice imaging to be possible in all planes (axial – sagittal – coronal. Oblique and double oblique).
- 3 . Matrix – 128 X 128, 256 X 256, 512 X 512, 1024 X 1024 and rectangular matrix selectable in steps of 1.

- 4 Half Fourier or other technique to reduce scan acquisition time while maintaining adequate SNR.
- 5 3D volume, multiple continuous slabs, multiple interleaved and multiple overlapping slabs.
- 6 Slice thickness in 2D and partition in 3D to be freely selectable.
- 7 Dynamic acquisition (Serial imaging with capability to initiate scan sequence either from the magnet panel or from the console).
- 8 Dynamic acquisition: number of repeat scans with delay time either identical time interval or selectable.
- 9 Auto slice positioning from the localiser imaging.
- 10 Maximum off-centre positioning. Anterior, posterior and lateral direction should be selectable.
- 11 . Gating physiological signal like ECG, pulse, respiratory, external signal triggering (interface for triggering input pulse from external source).
- 12 Simultaneous acquisition, processing and display of image data in multi slice mode.
- 13 Selection of VOI's from oblique slices should be possible while doing spectroscopy.
- 14 Artefact reduction, image enhancement, image filtering, image subtraction, image addition, image multiplication, image division techniques.
- 15 . Flow artefact compensation.
- 16 Presentation slabs – a number of re-locatable saturation bands can be placed either inside or outside the region of interest.
- 17 . Graphic presentations.
- 18 . Fat saturation techniques, frequency selective RF pulses to suppress fat signals in the measured image FOV.
- 19 Magnetisation transfer saturation: Off resonance RF pulses to suppress signals from stationary tissue in FOV phase contrast capability in 2D and 3D mode.
- 20 . Image intensity correction.

- 21 Breathe hold acquisition.
- 22 . Free breathing acquisition (2D, 3D).
- 23 EPI mode
 - a Data acquisition in all three standard planes (axial, sagittal, coronal, oblique and double oblique planes).
 - b . Matrix 128 X 128, 256 X 256 acquisition capabilities in single shot EPI acquisition time.
- 11 . PARALLEL ACQUISITION
 - 11.1 System should have parallel acquisition capabilities with the following requirements.
 - 1 Compatible with 2D and 3D, SE, FSE, gradient and other newer sequences.
 - 2 Should be combinable with all orientations (Transverse, sagittal, coronal and oblique).
 - 3 Should be combinable with all imaging applications (Neurological, Cardiac, Orthopaedic, Body, musculoskeletal, Angiography including CE Angiography).
 - 4 Dedicated coil for reducing image acquisition time should be supplied (Fully compatible with parallel acquisition technique).
- 12 . IMAGING SPECIFICATIONS
 - 1 Minimum TE in Gradient Echo, i.2Dii.3D
 - 2 . Minimum TR in Gradient Echo, i. 2Dii. 3D
 - 3 Minimum TR in spiral mode.
 - 4 Minimum FOV for all sequences (2D and 3D): 1cm or better.
 - 5 Maximum FOV for all sequences (2D and 3D)-Maximum gradient amplitude should be possible over this FOV.
 - 6 Motion correction in T2 and FLAIR acquisition should be available in addition to Susceptibility free non EPI Diffusion technique.

- 7 Motion detection and correction in 2D/3 D to be available.
- 8 Possible to perform scans with shared echo technique.
- 9 Possible to perform scan with segmented K – space.
- 10 Ensure the availability of
- 11 . Frequency selective fat saturation.
- 12 . Frequency selective water excitation.
- 13 . Magnetisation transfer contrast technique (MTC).
- 14 Maximum ETL, 128 or better in full Fourier transformation.
- 15 1024 X 1024 acquisitions and 1024 X 1024 reconstruction.
- 16 Minimum echo spacing EPI at 128 X 128.
- 17 . Rectangular FOV.
- 18 Half Fourier Imaging.
- 19 . ECG Trigger including one set of patient lead wires, one fibre optic peripheral gating probe.
- 20 Physiological synchronisation; displaying and triggering of ECG, pulse, respiration and external triggering sources on main console.
- 21 Advanced trigger detection.
- 22 Arrhythmia minimisation.
- 23 . Peripheral trigger.
- 24 . Pulse/Respiratory trigger.

13 PULSE SEQUENCES and APPLICATIONS REQUIRED

1 System should be capable of selecting TR and TE as per requirement in majority of the pulse sequences.

2 Functional Imaging

a Functional Imaging with paradigm generator with large high resolution display monitor that can be moved to any part of the MR exam room. Monitor should be height adjustable. It should be fully integrated with MR console for driving all the available paradigms. All the hardware components, required to carry out these paradigms, like console computer, necessary software, microphone, MR compatible headphones, fiber optic cables etc should be provided.

c Necessary Software Clinical Paradigm, Paradigm engine for executing a paradigm, Paradigm generation and creation, Paradigm Task Reference Guide, presentable objects, Entertainment Software, Virus protection software to be included.

d Include at least 10 proven ready to run paradigms. Should accommodate Mirror, prism glass and direct viewing. Should include Multi Media System for Patient Entertainment.

e The rate offered should be inclusive of the cost for necessary software and the paradigm generator, hardware for audio, visual, language, etc for functional MRI assessment. The rate shall be offered as an option and will not be taken for evaluation.

f A low end system for functional MRI with laptop and projector shall also be quoted as optional and the rate will not be taken for evaluation..

g The pulse sequences stated below or equivalent sequences by the different manufactures should be available.

3 Basic Pulse sequences

- 1 Spin Echo (SE) – Multi slice single echo, multi slice multi echo with minimum TR and TE. SE with symmetrical and asymmetrical echo intervals.
- 2 Inversion Recovery (IR) including short TI – modified IRSE, FLAIR, DIR (Double Inversion Recovery).
- 3 MT with FLAIR STIR (Short Tau Inversion Recovery) SPIR.
- 4 Gradient Echo with transverse gradient/RF spoiling and transverse gradient re-phasing e.g. GRASS etc. 3D gradient echo with shortest TR and TE, free choice of flip angle selection while maintaining SNR.
- 4 Dynamic study for Pre and post contrast scans time intensity studies (Wash in and wash out) and Kinematics.
- 5 . Fast Sequences.
- 1 . FSE – Fast spin echo in 2D and 3D mode. T1, T2 and PD contrast capable of acquiring maximum of slices with a given TR and minimum TE.
- 2 Echo train should be at least 256 or more in fast spin echo mode.
- 3 Ultra short fast spin echo.
- 4 Half Fourier acquisition capabilities should be available with/without diffusion gradient and in combination with fast spin echo.
- 5 Fast spin echo with inversion recovery.
- 6 Fast gradient spin echo IR multi slice, multi echo mode with minimum turbo factor. Sequences should incorporate RF focusing to acquire ultra fast gradient spin echo.
- 7 Fast gradient echo sequences should incorporate RF spoiling and other techniques to acquire image in ultra fast 2D and 3D modes.
- 8 Fat and water suppressed imaging sequences.
- 6 Ultra – Fast sequences

- 1 EPI (Echo Planar Imaging), Single shot and multi shot optimised sequences for T1, T2 and PD imaging. Perfusion, regular diffusion values (5b, 3 directions) EPI – FLAIR, EPI – FLAIR diffusion Tensor, EPI - MT – FLAIR. Tensor diffusion [in minimum six directions with FA maps, Eigen Vector maps and 3 dimensional Tractography colour White matter maps] diffusion studies, suitable artefact/fat suppression techniques to be incorporated in the sequence to have optimum image quality. There should be capability of calculating ADC map (Isotropic and isotropy) from regular diffusion and tensor data.
- 2 Single shot selectable with all coils including phased array coils for very fast imaging of trauma patients.
- 7 Optimised sequence package for special application.
- 1 MR Angiography – Comprehensive Angiography software package.
- 2 2D TOF, 3D TOF, TOF overlapping sequence.
- 3 2D/3D phase contrast with and without gating and magnetisation transfer saturation.
- 4 Black Blood Angiography for cerebral, pulmonary, abdominal and peripheral vessels.
- 5 For peripheral Angiography moving table Angiography must be provided so that complete limb can be examined in single go.
- 6 Bolus tracking software package must be provided.
- 7 Sequences for breath hold Angiography with contrast enhancement should be offered.
- 8 Sequence package for diffusion study in organ like brain, Kidney, muscle, heart etc.
- 9 Perfusion study in organ system like Kidney, Brain, Muscle, Heart etc evaluation package for calculating CBV, CBF, MTT, Perfusion MAP etc. Give maximum B values available (Should be possible on main console in real time).
- 10 Flow quantification in vessel and CSF, hepatobiliary system.
- 11 Optimised breath hold sequences for abdominal studies including Angiograms.

- 12 Internal Ear Imaging.
- 13 MR cholangiography, MR Pancreatogram; MR Urography, specialised sequences and processing to perform MRCP.
- 14 MR Ventriculography and Cisternography.
- 15 Flow quantification package for CSF with dynamic CSF flow imaging at aqua duct and spinal canal.
- 16 Pulmonary 2D/3D MRA sequences.
- 17 Navigator technique for collection of functional imaging data.
- 18 Artefact reducing software (for example, reducing CSF flow artefacts in FLAIR 2D/3D imaging).
- 8 Advanced MR cardiac examination package required for evaluation of heart in long and short axis with black blood cardiac imaging.
- 1 Morphology, wall motion, perfusion imaging, cardiac tagging technique, real time interactive imaging free breathing cardiac MR examination.
- 2 Package for coronary artery imaging including sequences for motion compensation prospective and retrospective gating should be available.
- 3 No contrast coronary imaging also required.
- 14 SPECTROSCOPY
- 1 System should have necessary hardware to perform ^1H Spectroscopy.
- 2 . Water suppression facility.
- 3 Capability for single voxel and multi voxel spectroscopy acquisition.
- 4 STEAM, PRESS, CSI, STEAM with CSI, PRESS with CSI with different TR/TE.
- 5 Simultaneous multivoxel acquisition with CSI capabilities.

6 Multi slice MRS with fat and water suppression using SE and EPI techniques.

7 Post processing should include FFT, base line correction automatic phase correction, curve fitting, metabolite image and spectral mapping, correlation, quantification of metabolites etc.

8 Spectroscopic mapping.

9 . Sequences for metabolite mapping.

10 . Minimum VOXEL size for ^1H (head coil) - to be mentioned.

11 . Simultaneous display and evaluation of image spectroscopy data.

15 POST PROCESSING AND EVALUATION SOFTWARE

1 3D multi planer reconstruction (MPR) in any arbitrary plane including curved planes with freely selectable slice thickness and slice increments in matrix 256 X 256 X 128.

2 3D surface reconstruction and evaluation of a reconstructed image with minimum time.

3 MIP in 2D and 3D mode. Targeted/segmental MIP in any orthogonal axis with minimum processing time and capable of displaying in cine mode.

4 Cardiac evaluation operator selective or automatic contour mapping and calculation of cardiac parameters like wall thickness, stroke volume EF, filling rate, myocardial wall motion etc. including display of data in table, graph and in cine mode.

5 Perfusion image analysis and evaluation with time intensity graph and other statistical parameters.

6 Flow quantification and evaluation for vascular flow (high and low) CSF flow, bladder out let.

7 . Image statistics – measurement of distance, area, volume angle, SD, mean, image addition, subtraction, multiplication, division, interpolation, segmentation, threshold, histogram, ROC.

8 Evaluation feature like, Zoom, rotation, scroll, roaming, image synthesis, multipoint T1 T2 calculation (more than 3), Window stretching, text dialogues,

graphics, storing, searching, archiving, recalling.

16 MULTIFORMAT IMAGER

1 Dry imager – DICOM 3.0 (or newer version) compatible, Dry chemistry. 500 DPI or more, with at least two film drawers. 14 x 17 “(35 x 45 cm) and 14 x 14” (35 x 35 cm) size.

2 System must provide complete batch filming with means to adjust image contrast and density.

3 Imager must be controlled for exposure from the operator’s consol and any workstation. An interlock/indicator system must be provided to prevent image production from one console, being intermixed with images from other consoles.

4 . Automatic transport system.

5 Remote keypad, contrast inversion, 35mm adaptability.

6 Should be connectable to multiple modalities like CT, MRI, Angiographic systems, Ultrasonography, with on line PACS necessary interface must be provided. Filming must be possible with all modalities mixed on a film.

7 Must be able to do serial processing imaging system wise when multiple systems are connected to the processor.

8 All needed software and hardware must be provided.

17 OTHER ACCESSORIES

1 MR compatible pressure injector of a reputed firm with control from console.

2 Fully digital, double head for contrast and saline with disposable syringes of 130 or 200 ml.

3 A minimum of 200 numbers of syringes with connectors to be supplied along with the equipment.

4 MR compatible anaesthesia equipment with Boyle’s apparatus of reputed make. Rate to be quoted separately and the rate offered will not be taken for evaluation.

- 5 MR compatible ventilator and infusion pump. Rate to be quoted separately and the rate offered will not be taken for evaluation.
- 6 MR compatible pulse-oximeter. Rate to be quoted separately and the rate offered will not be taken for evaluation.
- 7 MR compatible stethoscope— 3 numbers. Rate to be quoted separately and the rate offered will be taken for evaluation.
- 8 MR compatible continuous patient monitoring system. Rate to be quoted separately and the rate offered will not be taken for evaluation.
- 9 MR compatible IV stand— 2 numbers.
- 10 . MR compatible patient trolley – 2 numbers.
- 11 Suitable chiller system – original.
- 12 Imported RF cabin and interior with air-conditioning of the same should be provided as part of turnkey.
- 13 . RF coil storage cart – custom designed in teak wood/imported.
- 14 Patient comfort kit including following and other standards.
- i Noise guard head set for adult, children and neonatal.
- ii Ear phones.
- 15 . 2000 rewritable DVD-compatible with the system.
- 16 Pen drive with 16GB memory – 4 numbers.
- 17 . Hand held metal detector – 2 numbers.
- 18 System should be capable for networking – network port.
- 19 Colour Laser printer with high resolution.

- 20 Three ergonomically designed chairs for consoles.
- 21 . Suitable UPS for the complete system with a minimum 30 minutes backup.
- 22 . MR compatible fire extinguisher.
- 23 Necessary calibration phantom.
- 18 Personal computer with printer and scanner of following specification.

1 Model : Configuration

2 Processor : Intel Pentium i7 or equivalent 3 GHz Processor

3 Mother board : Intel 865 Original (800 MHz) FSB motherboard

4 Memory

5 Hard drive

6 Graphics card

7 Graphics card resolution

8 Audio/sound

9 LAN

10 Expansion slots

11 Keyboard

12 Mouse

13 Monitor

14 Drives

15 Speaker

16 O/S support

17 Printer

18 UPS

19 Scanner

20 Computer Table

21 Ergonomically designed Computer chair

19 OPTIONAL ITEM- Quote separately as optional.

19.1 . Stereotaxy if available the rate shall be offered separately, which will not be taken for evaluation.

a New stereotaxic frame – Leksell Microstereotactic system – Model G with required software compatible with CT also.

b Stereotactic attachment for the existing frame with required software.

c . Software for non stereotaxic MRI guided biopsy.

19.2. Biopsy coil with biopsy attachment if available. The rate shall be offered separately, which will not be taken for evaluation.

a Provide details of higher order shim coils as optional items.

b Overlapping MRA on MRI to see the exact correlation.

c Future up-gradation of gradient performance in term of amplitude and rise time should be possible at site.

20 COMMISSIONING AND QUALITY ASSURANCE (QA)

Compliance of all the technical parameters which are demonstrable using appropriate phantom as per the latest international guidelines should be

demonstrated by the firm at the time of commissioning the unit.

21 PERIODIC IMAGE QUALITY TEST

1 Test phantoms should be provided to calibrate and measure system performance as per the latest international guidelines.

2 Automatically perform QA procedure on a daily basis (SNR, Uniformity, Slice thickness, Contrast, geometric distortion and resolution) or performance evaluation package.

22 . POWER SUPPLY

1 Equipment should work in 415 – 440 V at 50 Hz AC.

2 Online UPS back up for the entire system for minimum 30 minutes.

23 4. NETWORKING

1 A software and hardware interface for a PACS connection to other modalities must be included.

25 SAFETY REQUIREMENTS

1 Safety requirement should meet internationally approved guidelines.

2 Should have safety certificate from a competent authority, CE issued by a notified body registered in the European commission and FDA (US) certification.

26 UPDATION

1 Provision for hardware/software updation – free of cost during warranty period and during CAMC.

OTHERS

1 There shall be no separate licensing fee for the use of software (software by the bidder or third party) supplied by the bidder.

- 2 All equipment provided shall be of current production, new and of first rate quality.
- 3 Remote diagnostic capabilities must include the ability to remotely connect the system on a regular basis to retrieve information about the system and to correct any software problems.
- 4 It is the responsibility of the bidder to provide all items required but erroneously mentioned or omitted above for the full commissioning of the equipment.
- 5 Specify the manufacturer's and country of origin (Certificate from chamber of commerce of country of origin should be produced).
- 6 All spares should be available for minimum 10 yrs.
- 7 Pre-installation requirements should be specified.

29. ITEMWISE TURNKEY

S.No. Description Qty. Unit

1.0 CIVIL WORKS

1.1 Dismantling existing doors, windows, partition (Aluminium & wood) handing over the same to the hospital authorities

Doors 1 No

Windows 1 No

Aluminium / wood partitions 10 Sqm

1.2 Dismantling old electrical points, wiring, lights and handing over the same to the hospital authorities LS L.S

1.3 Demolishing existing brick walls and carting away the debries 1.5 Sqm

1.4 Demolishing existing floor & wall tile including top layer i/c mortar etc. and carting away the debries 50 Sqm

1.5 Anti- Termite treatment, providing & injecting chemical emulsion for pre constructional anti termite treatment and creating chemical barrier at junction of wall & floor, wall conduits etc., (Chloropyrophos - 20%)perimeter of building expansion joints, surroundings of pipestrenches, along the external 500 Sqft

1.6 Earth work - Digging & removal of excavated soil for preparing foundation for MR 2 Cum

1.7 Filling with river sand including watering , ramming consolidating & dressing complete. 2 Cum

1.8 Providing & laying cement concrete excluding the cement cost of centering & shuttering. 1:4:8 (1 cement 4 coarsesand : 8 graded stone aggregate 40mm nominal size) 2 Cum

1.9 Providing & laying cement concrete excluding the cement cost of centering & shuttering. 1:3:6 (1 cement 3 coarsesand : 6 graded stone aggregate 20mm nominal size) 2 Cum

1.10 40 mm thick cement concrete flooring 1:2:4 (1 cement : 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) and top layer 10mm th. Consisting of 2 cement : 1 stone dust) finishing with a floating coat of neat cement including cement slurry, rounding off edges and glass strips etc. 2 Cum

1.11 Providing cable trench for system cables and wherever necessary with metal cover including finishing work 10 Rmt

1.12 Lintel work for placing door frames and windows, Lintel concrete, Centering and shuttering including strutting, propping etc. and removal of form work including all leads and heights. 1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 20mm nominal size) 1 Cum

1.13 Reinforcement for reinforced cement concrete works including straightening, cutting, bending, binding and placing in position all complete:-

Thermo Mechanically Treated bars 100 Kg

1.14 Brick work : Construction of 9" Brick wall 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) 2.5 Cum

1.15 Brick work : Construction of 4 1/2" Brick wall 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 1:4 (1 cement : 4 coarse sand) 2 Cum

1.16 Plastering work : 15 mm cement plaster of mix 1:4 (1 cement: 4 fine sand) 50 Sqm

1.17 Providing ceramic glazed tiles on wall. Coloured glazed tiles 200x300 or bigger in dado on 12 mm th. cement plaster 1:3 (1 cement :3 coarse sand) and jointed with white slurry using pigment (Basic cost of tiles = >40 to <50 / Sqft) cement. JOHNSON, NITCO, ORIENT, KAJARIA or approved make 75 Sqm

1.18 Providing and fixing Vitrified floor 600x600x8.5 mm th. Polished vitrified tile flooring of approved shade laid on a bed of 20mm th. cement mortar 1:3 finished with flush in all respects (Basic cost tiles =60.00 / Sqft) pointing matching with tile colour & pigment complete. JOHNSON, NITCO, ORIENT, KAJARIA or approved make 50 Sqm

1.19 Providing and fixing 2.0mm th. Vinyl floor/ skirting tiles with rubber based adhesive over clean and smooth surface including finishing by rolling a light roller all complete. 50 Sqm

1.20 Powder coated Aluminium door : Bottom particle board and top 5 mm plain glass with one side view and all accessories (open area shall be measure) including all accessories with related to this door. 2 Sqm

1.21 Hydraulic door closer: Providing and fixing matt finished aluminum exposed type hydraulic door closer of specified make with necessary accessories and screws etc. complete. 3 Nos

1.22 Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.. 3 Nos

1.23 Providing and fixing frosted/mat film of thickness 25 microns self adhesive of approved colour, shade and quality with cutting as per approved design and pattern including cleaning of glass and making surface smooth for fixing of film all complete as per direction of Engineer in charge to glazed window/doors 5 sq m

1.23 Providing and fixing aluminium handles ISI marked anodised (anodic coating not less than grade AC 10 as per IS: 1868) transparent or dyed to required colour or shade with nuts and screws etc. complete- 125mm 6 Nos

1.24 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 nuts and screws etc. complete-

250 X 10 mm 3 Nos

150x10mm 3 Nos

1.25 Providing & fixing Armstrong False ceiling with 2 ft x 2 ft 30 Sqm

1.26 Providing & fixing Gypsum false ceiling including painting 15 Sqm

1.27 Internal wall painting with acrylic emulsion paint of approved shade including base preparation using putty and fillers as specified and directed all complete. (Primer + 3 coats) 100 Sqm

1.28 External wall painting with cement based water proof external paint of approved manufacture in white shade. (2 coats) 100 Sqm

1.29 Painting with synthetic enamel paint of approved brand and manufacture to give an even shade (matt) in two or more coats in approved shades over an under coat of with ordinary paint of approved brand and manufacture.suitable shade: Windows & grills 10 Sqm

SANITARY INSTALLATIONS& WATER SUPPLY

1.3 Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous china flushing cistern & C.P. flush bend with fittings & C.I.brackets, 40 mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete, including painting of fittings and brackets, cutting and making good the walls and floors wherever required : W.C. pan with ISI marked white solid plastic seat and lid
Make:Hindware,Cera,Jaquar etc., 1 no

1.31 Providing and fixing 600 x 450mm bevelled edge mirror of superior glass (of approved quality) complete with 6mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete. 1 no

1.32 Providing and fixing C.P. brass long body bib cock of approved quality conforming to IS standards and weighing not less than 690 gms. 15mm nominal bore 2 no

1.33 Supplying and fixing in position white glazed soap tray concealed recessed type of size 200 mm x 150mm , including cost of all materials and labour charges etc. complete. 2 no

1.34 Providing and fixing wash basin with C.I/M.S brackets painted white ,15 mm C.P brass pillar taps, Kingston / Gem / Techno / Parko, 32 mm C.P brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever required :- Wash basin size 550x400mm with single 15mm C.P.brass pillar tap 1 no

1.35 Providing and fixing stainless steel towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fitting arrangement of approved quality colour and make (Prayag or equivalent).600 mm long towel rail with total length of 645 mm 1 no

1.36 Providing and fixing PVC trap of self cleansing design withPVC screwed down or hinged grating with or without vent arm complete including cutting and making good the walls and floors. 100mm inlet and 75mm outlet. 2 no

1.37 Providing and jointing PVC pipes of (pressure10 K g/cm²) for water supply including testing of joints, concealing the pipes , & trenching & refilling wherever required etc complete. 20mm pvc pipe 10 m

1.38 Providing and fixing unplasticised rigid pvc pipe(pressure 6kg/cm²) in drainage line including cutting, trenching, filling but excluding the cost of fittings and fixtures ect. Complete

75mm 5 m

110mm 5 m

1.39 Constructing soak pit 1.2X1.2X1.2 m filled with brick bats including S.W drain pipe 100mm diameter and 1.2 m long complete as per standard design. 1 no

1.4 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. 1 no

PVC WORKS

1.41 Providing and fixing factory made PVC door frame made of PVC extruded section having over all dimensions of 48x40mm (tolerance +1mm) with wall thickness 2.0mm+0.2mm, corners of the door frame to be mitred and joined by means of plastic/MS galvanized brackets and stainless steel screws. The hinge side vertical of the frames reinforced by galvanized MS tube of size 19x19mm and 1mm+0.1mm wall thickness and 3nos stainless steel hinges fixed to the frame complete charge. (Sintex, Plasopan or duroplast or Rajshri)

48x40x2.0mm thick PVC door frame 5 m

1.42 Providing and fixing to existing door frames 24mm thick factory made PVC door shutters made of styles and rails of UPVC hollow section of size 59x24mm and wall thickness 2mm+0.2mm with inbuilt edging on both sides. The styles and rails mitred and joined at the corners by means of MS galvanized/plastic brackets of size 75x220mm having wall thickness 1.0mm and stainless steel screws. The styles of the shutter reinforced by inserting galvanized MS tube of size 20x20mm and 1mm +0.1mm wall thickness. The lock rail made up of 'H' section, a UPVC hollow section of size 100x24mm and 2mm+0.2mm wall thickness fixed to the shutter styles by means of plastic/galvanized MS 'U' cleats. The shutter frame filled with a UPVC multi chambered single panel of size not less than 620mm, having over all thickness of 20mm and 1mm +0.1mm wall thickness. 1.5 sq m

FLOORING TILES FOR TOILET

1.43 Providing and laying anti skid ceramic floor tiles of required size for toilets (7.5mm thickness or nearest size) of 1st quality conforming to IS 15622 of approved make in all colours, shades, except white, ivory, grey, fume red brown laid on 20mm thick bed of cement mortar 1:4 (1 cement : 4 coarse sand) including pointing the joints with white cement and matching pigments etc complete. 2 sq m

1.44 RF Interior work inside MR room. Providing and fixing wooden paneling consisting of 25x50mm soft wood framing to wall / vertical surface @ 600mm c/c both ways and finishing with 600 mm wide full height prelaminate MDF board 12.5mm th. Panels with 100x15mm TW skirting & 40x40 vertical T.W. members at vertical joints of Novapan board fixed to the framing below all complete as directed including fixing with brass screws and other nonmagnetic accessories only MRI inside and Console side 50 sq m

1.45 Providing & fixing Armstrong False ceiling with Aluminum grids inside MR room. 15 sq m

2 ELECTRICAL WORKS

2.1 L.T.PANEL & UPS Panel : Supply, installation, testing & commissioning of cubical pattern floor mounted L.T. Panel & UPS panel made out of 14 SWG CRCA sheet, powder incoming/outgoing cable, suitable entry from top/bottom coated having separate alley for with busbars, ammeter (0-600A), selector switch with CTs voltmeter (0-500V) with protection fuses & selector switch, set of RYB phase indicating lamps, contactors, terminal blocks, interconnections, incoming & outgoing. 1 No

2.2 DISTRIBUTION BOARDS : 8 Way TPN DB for Raw power 1 No.

2.3 DISTRIBUTION BOARDS : 8 Way TPN DB for UPS power 1 No.

2.4 40A breaker with enclosures for Ductable split AC units (2) (rate to be offered for 2 units) 1 No.

2.5 Breaker switch with socket complete box for 2 tonne A/C 4 No.

2.6 Supply, laying and fixing of the following sizes of PVC insulated and PVC sheathed armoured conductor cable of 1.1kv grade as per IS 1554 (part 1) 1976, in trenches, on surface of wall or the ceiling complete with saddles, ties etc. as required. Make Poly Cab Cable and Routing the cable in flexible hose/pvc pipes including termination with suitable copper lugs.

a 95 Sqmm Copper Cable Flexible (UPS incomer) 50 RM

b 70 Sqmm Copper Cable Flexible (UPS outgoing) 50 RM

c 35 Sqmm Copper Cable Flexible (Earthing cable) 50 RM

d 25 Sqmm Copper Cable Flexible (AC units) 50 RM

e 16 Sqmm Copper Cable Flexible (Earthing cable) 50 RM

f 10 Sqmm Copper Cable Flexible (Earthing cable) 50 RM

2.7 Submains wiring with 4 x 4.0 + 1 x 2.5 sqmm. PVC insulated stranded copper wires in recessed /surface MS conduit complete with circuit wiring , earth wires etc.. Complete as required. 50 RM

2.8 Supply and making end termination with brass compression glands for PVC insulated and PVC sheathed armoured aluminum conductor cable of 1.1kv grade complete with lugs for following cables

5 x 95 Sqmm Conductor 10 Set

5 x 70 Sqmm Conductor 10 Set

5 x 35 Sqmm Conductor 10 Set

5 x 25 Sqmm Conductor 10 Set

2.9 Wiring for light points with 1.5 sq mm. PVC insulated stranded copper wires in recessed /surface MS conduit complete with circuit wiring , earth wires etc.. Complete as required.

One light controlled by 6A switch 15.00 No's

Two light controlled by 6A switch 15.00 No's

5 Pin socket with 6A switch outlet wiring 15.00 No's

3 no's 5 pin socket with one 16A switch outlet wiring 15.00 No's

2.1 Wiring for plug points with 4 sq mm. PVC insulated stranded copper wires in recessed /surface MS conduit complete with circuit wiring , earth wires 6 pin, 6/16A socket , 16A modular switches required. No's

2.11 CFL lights (2 ft x 2 ft) 36 x 2 no's Wipro/Crompton/Philips/ equivalent 10 Nos

2.1 CFL Round fittings 36 Watts Wipro/Crompton/Philips/ equivalent 10 Nos

2.13 Ceiling mounted Fans Wipro/Crompton/Philips/ equivalent 1 Nos

2.14 Exhaust fans in Toilets Wipro/Crompton/Philips/ equivalent 1 Nos

2.15 Earthing with copper plate 600 x 600 x 3mm th. including accessories and 25 x 3mm th. Copper strip from the base plate to the ground level and providing masonry enclosure with CI cover and with GI watering pipes with funnel including charcol and salt as required upto a depth of 3.5m from the existing ground level all complete. 1 set

2.16 Supply and fixing of 25mm PVC conduit along with accessories and MS boxes in recess / surface including cutting the wall and making good the same as required for telephone and LAN. 20 Mt.

2.17 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. 20 Mt.

2.18 Supply and fixing in position twin RJ11 jack plate i/c wall recessed GI box for telephone 2 No.

2.19 Supply and drawing CAT 6 wiring in existing conduite including termination. 20 Mt.

2.20 Supply and fixing in position twin RJ45 jack plate i/c wall recessed GI box for LAN 2 No.

2.21 24 port network switch with rack and accessories 1 No.

2.22 Patch cords for networking. 1 No

2.23 Broadband Internet connection (3 years) 1

2.24 24 port network switch with rack and accessories complete 1 No

3 FURNITURE & OTHER WORKS

3.1 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. 150 Sq ft

3.2 Steel cupboard (Godrej) for storage 6ft tall 3 feet width 1 No.

3.3 Computer table (long) with keyboard tray, CPU storage at base in a side and storage drawers at other side. (For workstation and reports) reputed brand godrej/featherlite/etc 1 No

3.4 Office chair - Pushback, PU arms, Pneumatic height adjustment and nylon base. Reputed brand like godrej/featherlite/etc 3 No.

3.5 Vacuum cleaner (Basic model) reputed brand 1 No.

3.6 Supply and installation of portable fire extinguisher (2 kg) with wall mounted for fire type ABC classification 1 No.

3.7 Suitable De- Humidifier units 1 No.

4 AC WORKS

4.1 Ductable A/C units 11 TR x 2 no's Low side works for complete installation & commissioning of AC (rate to be offered for 2 units) 1 No.

4.2 2 tonne Split air conditioner 5 star with stabilizer complete installation & commissioning (rate to be offered for 1 no) 4 No.

5 MISCELLANEOUS WORKS:-

5.1 PVC Name plates - 24" (L) x 4" (H) LS LS

5.2 Charges for obtaining electrical inspectorate's approval LS LS

5.3 Others : Rate for any item which are mentioned in the scope of turnkey of the tender but left above splitup or any other item which are not mentioned in the scope or split up rate but essential for the installation of the equipment shall be offered in lumpsum. Splitup details shall be provided by the successful tenderer before award of work. LS LS

5.4 Site cleaning LS LS

5.5 Fencing (Chain link) for Chiller LS LS

5.6 Shed for Chiller(GI sheet) LS LS

5.7 Additional Iron shielding if any LS LS

5.8 Copper pipe for O2, N2O, suction & air 50 sqm

5.9 Copper connectors 20 No

5.1 Outlets for O2, N2O, suction & air 3 No

5.11 Flowmeter with humidifier 1 No

5.12 Suction jar 1 No

LIST OF MATERIALS OF APPROVED BRAND AND/OR MANUFACTURED AS PER IS SPECIFICATION

Civil

Sl. no Item Makes

1. Vitrified Tiles RAK, Johnson, Khajaria, Somani
2. Ceramic Floor Tiles RAK, Johnson, Khajaria, Somani
3. Ceramic Wall Tiles RAK, Johnson, Somani, Khajaria
4. HD Digital wall tiles Somani/ Grestek Nxt
5. PVC Pipes (10 kg/cm²) Supreme/ Finolex
6. PVC pipes (6kg/cm²) Supreme, Phenolex
7. Valves Zoloto/Wiking
8. Exterior Emulsion Jotun, Asian

9. Plastic emulsion ICI, Asian, Nerolac
10. Wall putty Altech, Asian, JK, Birla
11. Cement paint Surfaced, Snowcem, Nerocem
12. Plywood Green Ply, Century
13. Patch fittings/ Door locks
& Door closers Godrej, 'Dorma', Merit
14. Laminate Decolam, Formica, Greenlam, Green Ply, Anchor
15. False ceiling Armstrong, AMF, Comceil, India gypsum/Saint
Gobain, Vansgypsum
16. Glass (all types) Saint Gobain, Modiguard, Hindustan, Asahi, Triveni
17. Hardware (locks) Godrej, Merit, Dorma
18. Cement Malabar/ Sankar/Ultratech/Ambuja, ACC, RAMCO
19. Exterior paint Jotun / Asian/ Nerolac
20. Gypsum or Calcium Silicate Gypboard, Hilux Ceiling

21. Sanitary fittings Jaguar, Marc, Roca

22. Sanitary ware RAK, Toto, American Standard, Parryware, CERA, Hindware

23. Aluminium Powder coating Bhoruka, Hindalco, Metacoats

24. Aluminium Extrusion Bhoruka, Hindalco, Jindal/Indal

Electrical

Sl.No Item Make of Materials/Equipment

1 1.1 kV grade XLPE insulated PVC sheathed Al./ Cu. Cable CCI, NICCO, Torrent, Universal, Havells, Gloster, Finolex, KEI

2 MCCB Siemens, Schneider, GE, L&T, C & S, Legrand,

3 Capacitor L&T, Saha Sprague, GE, Shreem, Epcos, Schneider

4 Starters, Timer & Contactors Siemens, L&T, Schneider, C&S, BCH, GE.

5 SDFU, Isolator, SFCOS L&T, Siemens, Schnieder, GE.

6 Push Buttons Teknic, Schneider, Siemens, BCH, C&S, L & T

7 Indicating lamps (LED type) Teknic, Schneider, Siemens, BCH, C&S, L & T

8 Fuses/Fuse carriers Siemens, L & T, Schneider, GE

10 Integrating meters SIMCO, L&T, Siemens, AE, Schneider, Secure, Socomec

11 Instrument Transformer AE, Intrans, Kappa, Intech, PGR, Powertech, Resitech

12 Selector switches Reco, Essen, Kaycee, L&T, C & S, Siemens, Schnieder, BCH, Teknic

13 660/1100 volt grade stranded unsheathed wire with copper conductor Finolex, RR Kabel, L&T, Lapp Kabel, V-Guard, Polycab

14 PVC Conduit Konseal, Balco, Precision, Clipsal

15 TOD meter L&T, Schnieder, Secure

16 Exhaust Fans Almonard, Crompton, polar, Khaitan, Baliga

17 Light Fittings Philips, Wipro, K- lite, Crompton Greaves,

18 LED light fixtures Philips, Crompton greaves, wipro

19 LED Chip CREE, Philips, Nichia

20 Modular type switches, sockets, bell push, fan regulator etc. Crab Tree(Athena), MK India (Blenz), Legrand(mosaic), Wipro (Northwest), Kolors (krest), Anchor(woods)

21 Ceiling fan Crompton Greaves, Polar, Usha, Khaithan

22 Metalclad plug/socket/Decontactor Legrand, C & S, Schnieder, Hagger,

23 Thermoplastic industrial type plug/ socket / decontactor Hensel, MK

24 MCB, RCBO, RCCB Legrand, Siemes, L&T, Hagger, Schnieder, Indoasian (gold plus)

25 MCB Distribution Boards Legrand, Siemes, L&T, Hagger, Schnieder, Indoasian (gold plus)

26 Nitrile rubber insulation Armaflex/K-flex/Totaline