



**BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM::HYDERABAD::32
FACTORY CIVIL DEPARTMENT**

SCHEDULE- A

Tender Notice No:

HY/FCD/OT- 13 /2010-11 , Dt: - 14.08.2010

PRICE BID

Item no : 07

Name of work : Modernisation of Admn. Bldg. HR Department interiors-Civil,
Electrical, Communication, IT networkina, Air
Conditioning, Fire Alarm systems etc.

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
	PART 'A'- CIVIL WORKS				
1	Dismantling the existing wooden / aluminum partitions / half height partitions if required into small units including removing doors and glass panes and stacking in stores including transportation within 2 Kms lead. Also, Removing the old furniture, almirahs, any other items and stacking the same as directed by Engineer-in-charge.	750.00	Sq.m	75.00	56250.00
2	Dismantling of existing windows along with frames and providing Glazed Windows Dismantle and remove the existing windows along with frames including chasing brick work/concrete and stacking them as directed by Engineer in charge. Supplying & fixing of flush window with openable shutters and fixed ventilators with double glazed window system using 1.2 mm thick, galvanised steel with Aliphatic grade polyurethane UV resistant, anti-static stove painted profiles using 150 x 50 mm size for double rebate profile for frames. The profile shall be jointed with butt joint assembly with roofing bolts and fixed to plastered wall openings with expansion sheets. Glazing shall be with 6 mm thick clear float glass, having two glasses with vacuum between glasses, mounting on profiles with high performance double side adhesive tape with silicon painting including the cost of all materials, labour, conveyance, accessories, erection including plastering of dismantled facias into a neat finish with CM 1:4 proportion complete in all respects as a finished item of work. Any minor gaps between frame and brick work shall be sealed with silicon material at both sides to avoid sweepage of rain water. MAKE: SHAKTI/AJANTHA OF NCL SECCOLOR	70.00	Sq.m	4000.00	280000.00
3	Supply and fixing of toilet doors along with teak wood door frame of size 100 mm x 75 mm teak scantlings and flush door shutter and laminating both door frame and shutter with premium quality teak vineer in required colour and design and malamine polish. The bottom of the door shall be provided Loowers jolly. Flush door shutter shall be chemically treated and water/insect/borer proof and 30 mm thick. This includes providing brass hinges, brass aldrops, brass tower bolts, brass handles and brass door stoppers.	5.00	Sq,m	3000.00	15000.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
4	<p>Supply and erection of false ceiling Providing and fixing in true horizontal level 600 mm x 600 mm false ceiling system manufactured by M/s. Armstrong World Industries using DUNE SUPREME RH 99 MICROLOOK EDGE WITH SILHOUETTE GRID, using hot dipped galvanized steel section, rotary stitched main tee of size 15mm x 42 mm web height, having 0.36 mm gauge at every 600 mm centre to centre maximum and rotary stitched cross tee of size 15 mm x 42 mm, having 0.33 mm gauge at every 600 mm. c/c. and wall angle of size 19 x 19 mm., having 0.35 mm gauge fixed to the periphery of the wall. The above grid is suspended at every 600mm c/c. in both directions using 2.0 mm. thick pre-straightened GI wire laying Dune Supreme Microlook Edge ceiling tiles manufactured by M/s. Armstrong World Industries, of size 600mmx600mmx15mm having NRC 0.50, Light reflectance of >85% (WT), thermal conductivity k = 0.052-0.057 W/m0K, Humidity Resistance of 99% (having LIFETIME GUARANTEE against SAG), having Fire Performance CLASS O / CLASS 1 (BS 476), surface having 3 coats of white paint - crisp finely granulated with microperforations, back of the tile duly sanded and finished with a coat of protective paint over the formed grid and complete in all respects. Make: Armstrong</p>	450.00	Sq.m	1130.00	508500.00
5	Dismantling brick masonry walls for all heights, removing and clearing the debries and carting away upto lead of 2 Km including loading, unloading and spreading segregating useful materials as directed by Engineer-in-charge including the cost of all labour scaffolding etc. complete.	50.00	Sq.m	355.88	17794.00
6	<p>Vitrified flooring: Supplying and laying of vitrified tiles of brighter shades and marble design of Premium Quality (1st Quality), in required texture and colour for floors/skirting/cladding using vitrified tiles of size 600 mm x 600 mm x 8 mm thick of approved make. It includes cost of cutting, champering of tiles to required size, with base of Conmax C-500/equivalent tile adhesive for fixing tiles on existing mosaic/cement flooring, jointing the tiles with colour tint etc. complete as directed by Engineer-in-charge. The cost of the tile shall be Rs. 60/- per SFt. (inclusive of all taxes & duties) and tiles of required make will be selected by user department with certification within the above specified cost. The rate quoted shall include cost of all materials, labour, adhesives, colour tint material, leads and lifts etc. complete. Amount will be paid on the basis of measurement of the area of finished work only. It also includes surface preparation of existing ceramic floor giving necessary slopes, cleaning joints and grouting joints with pigmented additives to match shade of the tile,</p>	450.00	Sq.m	950.00	427500.00
	match shade of the tile making pockets for electrical, communication, network cables etc. complete in all respects.				

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
7	<p>Supply & fixing of Aluminium Composite Panel (ACP), 2 mm thick in required colours for interiors, consisting of two layers of aluminium skins of 0.15 mm thick sandwiching a thermo plastic core in continuous lamination process with PVDF Resin coating for interior grades ensuring long colour and no fungal attacks. Base framework with aluminium sections shall be fixed over the brick work and the above composite panels shall be fixed to the framework as cladding. There shall not be any colour variation in panels.</p> <p>It includes cost of labour, materials, accessories, adhesives, scaffolding, wastages, transport, taxes, fixing into a neat finish in aesthetic point of view, without any undulations in facias. Any undulations in walls shall be maintained into one level and the required packing material shall be provided to maintain the neat finish. Payment will be made for finished work only.</p>	20.00	Sq.m	3600.00	72000.00
8	<p>Aluminium Glass Partitions: Supply & fixing of aluminium full height/half height partitions with new anodised aluminium box section powder coated in required colour, design and size of box section 101.60 x 44.45 x 2 mm for verticals, top and bottom horizontals and 63.50 x 38.10 x 2 mm for intermediate horizontals at spacing suiting to the site requirements as approved. Wherever doors are coming wooden runners are to be provided in the box section. The rate shall include grouting of frame to the floor properly fixed to at ends to walls, supply & fixing of 12 mm toughened glass in required sizes and colour. Supply & fixing of frosted film with specified design, size and Make of "Birla 3M" etc. complete. (The door opening shall be deducted for payment). The rate shall include labour, materials, nails, screws, clamps etc. complete.</p>	120.00	Sq.m	4000.00	480000.00
9	<p>Full height glass partitions for cabins:</p> <p>Providing & fixing of Aluminum frame work using 50 x 50 x 1.2 mm box sections placed at approximately 600 mm c/c horizontally and vertically and forming a grid size of 600 x 600 mm. The frame work is to be adequately anchored in RCC slab for a firm support. Then fixing of 12 mm MDF board on both sides of Aluminum frame work upto the false ceiling level. Providing and fixing of 12 mm Toughened Glass for partitions and doors and door hardwares with DORMA make like floor spring, patch fittings, bottom locks, 'D' handles, with specified design and sizes of frosted film on glass partitions and doors complete in all respects.</p>	200.00	Sq.m	4000.00	800000.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
10	Wall paneling: Supply & fixing with new 12 mm thick particle board one side laminated of approved brand (Eco board) and shade for wall paneling on the wooden frame work (treated with termite and moisture resistant chemical) and also for doors, windows, cup board sliding shutters, pelmets, boxes etc. with necessary fixtures like brass hinges, door handles and stoppers etc. as directed by Engineer-In-charge. The rate quoted shall include of cost of all labour, materials such as particle boards, nails, screws, sliding rollers/bearings, fevicol etc. complete. Frame work with second class teak wood scantlings of size 50 x 25 mm as verticals and horizontals, at an interval of 90 cm c/c shall be made for fixing the Ecoboard. Joints shall be covered with Steam Beige beading and corners shall be covered with corner Steam Beige beadings of suitable sizes, with malamine polish finish complete in all respects. Make : Eco board	300.00	Sq.m	1600.00	480000.00
11	Supply & fixing of Rollar blinds including channels, fabric etc. complete and the basic cost of the blinds shall be in the range of Rs. 125/- per S Ft. The colour and design of the blinds will be selected by department within the above specified cost.	100.00	Sq.m	1500.00	150000.00
12	Supply & fixing of Aluminium metal tiles powder coated in false ceiling suitable to the Armstrong false ceiling grid size under the roof mounted AC indoor units. Colour of the tile shall be matched with the colour of Armstrong boards.	25.00	Each	380.00	9500.00
13	Brick work using 2nd class ground moulded British standard bricks in CM 1:6, in super structure including the cost of all materials, labour, curing etc. complete.	5.00	Cu.m	2357.40	11787.00
14	Plastering in CM 1:6, 12 mm thick to internal and external surfaces of walls including the cost of all materials, labour, curing etc. complete.	200.00	Sq.m	95.10	19020.00
15	Plain cement concrete 1:4:8 using 20mm and down graded granite stone metal including the cost of labour, all materials, curing etc., but excluding the cost of all form work, M.S. reinforceent and binding wire etc., complete (60% -20 mm size metal and 40% of 10 mm metal).	3.00	Cu.m	2449.00	7347.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
16	Supply & fixing 10 mm thick best quality approved colour and design machine cut granite tiles of size 600 mm x 300 mm with mirror polished granite stone for flooring, platforms, cladding, vanity counter Facia etc and for any other locations including cutting, champering, rounding and mirror polishing etc. complete as directed. Tiles will be selected by user department.	10.00	Sq.m	810.00	8100.00
17	Supply & fixing of 18 mm thick best quality Jet Black colour machine cut mirror polished granite slabs in required sizes for counter wash basins, floorings, vanity counter, claddings, facias etc. including cutting, champering, rounding and mirror polishing etc. complete as directed. Cost of granite slabs shall be Rs. 1600/- per Sq. m and granite slabs of required design and colour will be selected by department.	11.00	Sq.m	3071.00	33781.00
18	Supply & fixing of 6 mm thick mirror of approved quality "Modi float glass", with 6 mm thick hard board back and with best quality Steam beige frame all round the mirror including necessary clamps, malamine polishing to the beading, including cost of all materials etc. complete.	4.00	Sq.m	1445.00	5780.00
19	Thorough cleaning of existing oil bound distemper paint/white washing with water, by scrapers for old walls and stone rubbing for new plastered walls with suitable tools and applying one coat of oil based cement primer and applying 3 coats altek lappam one coat after drying the previous coat and sand papering and applying two coats of acrylic washable distemper etc., complete as directed by the Engineer-in-charge. Rate shall include all materials like lappum, primer, tools and tackles, scaffolding etc. Only acrylic washable distemper will be issued by BHEL at free of cost.	20.00	Sq.m	84.10	1682.00
20	Supply and fixing of "Parryware" make ceramic oval shape below counter wash basin size 550 mm x 450 mm, Code No.: 0418, regular in colour (light Ivory) with all accessories like brackets, screws, waste coupling half thread/full thread (Code No. T9910A), connecting hose 2' (Cat No. T991999) etc. complete.	1.00	Each	2024.00	2024.00
21	Dismantling of existing EWC with flush tank and other fixtures carefully and handing over to stores for reuse and supply & fixing of new "Parryware" make ceramic cascade water closet suite with "P/S" trap including Polypropolene seat cover with all accessories regular in colour along with ceramic matching colour low level cistern 10 liters capacity with wonder flush fittings.	1.00	Each	6985.00	6985.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
22	Supply & fixing of new "Parryware" make, Orissa Pan size 580 mm (Cat 0109/17) with P/S trap box rim with internal foot treads including ceramic low level flushing cistern 10 liters capacity with Parryware wonder flush kit, regular in colour with all required accessories etc. complete.	2.00	Each	4261.00	8522.00
23	Supply and fixing of "Jaquar (Continental)" make sink cock with raised 'J' shaped swinging spout, Cat No. 359	1.00	Each	1060.00	1060.00
24	Supply and fixing of "Jaquar" make angular stop cock, Cat No. 053	2.00	Each	495.00	990.00
25	Supply and fixing of "Jaquar (Florentine)" make 2-way bib cock with wall flange, Cat No. 5041	2.00	Each	1230.00	2460.00
26	Supply and fixing of "Jaquar (Allied)" make Health Faucet with 8 mm dia, 1 m long flexible tube and wall hook, Cat No. 573	1.00	Each	1325.00	1325.00
27	Supply and fixing of Paper Holder.	1.00	Each	500.00	500.00
28	Supply and fixing of towel ring.	1.00	Each	500.00	500.00
29	Supply and fixing of Soap dish.	1.00	Each	500.00	500.00
30	Supply and fixing of Odonil Holder.	1.00	Each	500.00	500.00
31	Supply & fixing coloured glazed tiles of required make ceramic tiles of Premium (First) quality of required size and of approved shade and design, for walls/flooring over a base of CM 1:4, including neat finishing and jointing etc. complete. (Corners are to be joined by mitering the tiles). The cost of the tile shall be Rs. 70/- per S Ft. The make, design and colour of tile will be selected by department within the above specified cost. The rate quoted shall also include the cost of all materials, labour etc. complete. Payment will be made for finished item of work only. Cement will be issued at free of cost for the base of CM 1:4 for fixing of tiles.	50.00	Sq.m	764.00	38200.00
32	Supply & fixing of walk way tiles of required design, colour and make, with base of Conmax C-500/equivalent tile adhesive for fixing tiles on existing flooring. Cost of the tile shall be Rs. 50/- per S Ft. User department shall select the design and colour, the agency will procure the same within the above specified cost. Rate quoted shall include cost of all materials, leads and lifts etc. complete. Amount will be paid for the finished item of work only.	10.00	Sq.m	650.00	6500.00
33	Supplying & fixing in position with suitable with PVC pipe of approved quality including chasing brick work / concrete and making good the same after replacing wherever necessary etc. complete including all accessories like bends, tees, elbows etc. - 75 mm (3") dia.	30.00	RM	80.78	2423.40
34 a)	Supply & fixing of GM peet valves, heavy quality of Leader/Zoloto make of the following nominal bore. a) 15 mm (1/2") dia	2.00	Each	242.00	484.00
b)	20 mm (3/4") dia.	2.00	Each	327.00	654.00
c)	25 mm (1") dia.	2.00	Each	482.00	964.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
35	Supply & fixing of false flooring for server room and Electrical room.	10.00	Sq. m.	4650.00	46500.00
	PART 'A' TOTAL	Rs.		35,05,132.40	
	PART - B - AIR CONDITIONING WORKS				
1	Supply, installation, testing & Commissioning of 17.0 TR ceiling suspended Duct able split a/c unit, Three phase with 17.0 TR 1no indoor unit and 8.5 TR 2.nos outdoor Unit with scroll compressor & remote control along with electronic control with remote control pad, necessary cabling, DBs, switches, inclusive of all connected accessories etc for HR hall, complete in all respects. MAKE: LG/VOLTAS/BATLIBOI/CARRIER/BLUE STAR	2.00	Each	345000.00	690000.00
2 a)	Supply of 2.0 TR Cassette AC comprising indoor unit, outdoor unit with electronic control panel and remote control pad, DB's, switches etc for HR bldg. conference halls etc complete. MAKE: LG/VOLTAS/BATLIBOI/CARRIER/BLUE STAR	1.00	Each	57000.00	57000.00
2 b)	Copper piping with insulation between indoor and outdoor	10.00	RM	690.00	6900.00
2 c)	Electrical wiring between outdoor and indoor	12.00	RM	126.00	1512.00
2 d)	Drain Piping 25 mm	10.00	RM	103.00	1030.00
2 e)	Machine installation and commissioning (indoor & outdoor) including necessary civil works.	1.00	Each	3450.00	3450.00
3 a)	Supply, installation, testing & Commissioning of 1.5 TR Hi-wall Split room air conditioner along with electronic control with remote control pad, necessary cabling, DBs, switches, inclusive of all connected accessories etc complete in all respects. MAKE: LG/VOLTAS/BATLIBOI/CARRIER/BLUE STAR	3.00	Each	25000.00	75000.00
3 b)	Copper piping with insulation between indoor and outdoor	20.00	RM	690.00	13800.00
3 c)	Electrical wiring between outdoor and indoor	24.00	RM	126.00	3024.00
3 d)	Drain Piping 25 mm	20.00	RM	103.00	2060.00
3 e)	Machine installation and commissioning (indoor & outdoor) including necessary civil works.	3.00	Each	3450.00	10350.00
4	Supply, installation, testing & Commissioning of following piping / ducting for Air Conditioning units Copper refrigerant piping with insulation foam between indoor and outdoor air cooled condensers of the following sizes. Hard drawn pipe 28mm dia	75.00	RM	989.00	74175.00
5	12mm dia	75.00	RM	661.00	49575.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
6	Soft drawn pipe 12.5mm dia	75.00	RM	402.00	30150.00
7	6.5mm dia	50.00	RM	276.00	13800.00
8	GSS ducting complete with angle iron flanges, high tech supports as per SMACNA specification	25.00	Sq.m	1207.00	30175.00
9	22 gauge	50.00	Sq.m	1053.00	52650.00
10	24 gauge	200.00	Sq.m	862.00	172400.00
11	The acoustic lining in the duct using fibre glass with 26 g aluminum perforated sheet using GI nuts and bolts. - 12.5mm thick	50.00	Sq.m	287.00	14350.00
12	Providing Thermal Insulation with 25mm thick fibre glass crown 150mm covered with aluminum foil.	200.00	Sq.m	615.00	123000.00
13	MS black coated Collar Dampers	5.00	sq.m	21804.00	109020.00
14	Main duct Volume control dampers made out of 18 gauge GI sheet.	2.00	Sq.m	12075.00	24150.00
15	Fire damper made out of 18 gauge GI sheet with fusible link.	2.00	Sq.m	3231.00	6462.00
16	Fire retardant flexible canvas connection	3.00	Each	483.00	1449.00
17	Condensate drain pipe of standard make PVC with insulation of 50mm dia	75.00	RM	115.00	8625.00
18	Power and control cabling between the panel, indoor unit and out door unit of the following sizes 3c 1.5 SQ.MM	750.00	RM	57.00	42750.00
19	3c 2.5 SQ.MM	500.00	RM	60.00	30000.00
20	Mounting both indoor & outdoor units, pressure testing, vaccumising and commissioning etc. of Duct able a/c unit	3.00	Each	10925.00	32775.00
21	Mounting of in door and out door Hi-wall split unit	6.00	Each	5175.00	31050.00
22	Fabrication and erection of MS channel/angle frame work for installation of mounting of out door units including grouting with concrete/anchor bolts into brick wall/concrete/floors etc complete. Required MS channels/angles shall be supplied by BHEL on free of cost.	3.00	Each	7305.00	21915.00
23	Supply & fixing of Aluminium diffusers and dampers powder coated removable core type, 4-way. These diffusers shall be suitable for Armstrong false ceiling of grid size 600 mm x 600 mm and colour of the diffuser shall be matched with the colour of Armstrong boards.	50.00	Each	1840.00	92000.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
24	Supply & fixing of Aluminium diffusers with powder coated without dampers, removable core type 4-way return air Neck - 18" x 18", Outer 590 x 590 mm, Reflection - 30. These diffusers shall be suitable for Armstrong false ceiling of grid size 600 mm x 600 mm and colour of the diffuser shall be matched with the colour of Armstrong boards.	50.00	Each	1403.00	70150.00
	Note: i. Air balancing to be carried out to show anywhere in the area 24±2°C in peak summer also. Note: ii. Energy Meter for total load (lighting, A/C etc.) of the floor shall be provided.				
	PART 'B' TOTAL	Rs.	18,94,747.00		
	PART -C - ELECTRICAL WORKS				
1	Cable Raceways Supply, installation, testing & Commissioning of separate floor Raceways with covers & Cable Trays with suitable covers for all ratings of power supply points, both 230VAC and 415 V AC Supply & Installation of 300x50x2.0mm GI ladder type Cable Tray with all accessories and supporting arrangement from ceiling or Wall complete in all respects.	40.00	RM	661.00	26440.00
2	Supply & Installation of in-screed floor raceways (to be run separately for power, network and telephone cables) consisting following rectangular Aluminium sections including chasing and refilling the trench as per the route shown in the drawing and approved by Engineer in charge at site including clamping & closing the open pipe ends temporarily by suitable end covers against entry of dust or any other foreign material complete in all respects. 96 x 38 mm	400.00	RM	431.00	172400.00
3	56 x 38 mm	150.00	RM	374.00	56100.00
4	Supply & Installation of floor junction boxes with top cover for above raceways , of size 300mm x 300mm x 50mm / 150x150x50 fabricated out of MS painted sheets with removable screwed cover plates on all four sides for blocking the entry complete in all respects. Make : Locally fabricated	150.00	Each	546.00	81900.00
5	Removal of existing electrical equipment Removing all existing switch socket, cable, wire, DB, Telephone socket, Networking socket, Telephone and data cable or any other equipments including stacking and transporting to the departmental stores.	1.00	LS	34500.00	34500.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
6	<p>Supply, Installation and commissioning of MAIN LT PANEL, floor mounted, front operated, dead back, totally enclosed vermin proof, indoor, non-draw out, cubicle type power dist. panel fabricated out of 2mm thick CRCA sheet having gasketed hinged door on each cubicle, fully powder coated / enamel painted after seven tank treatment, incorporating horizontal and vertical sleeved copper busbars 'complete with all internal wiring, danger board, two earthing lugs, cable chamber etc. as required' housing below mentioned switchgears / meters. Complete in all respects. This panel should consist of following.</p> <p>Digital Energy meter with RS 485 port - 1 No. 250A 50KA TPN MCCB unit as Incomer - 1 No. 160A,50KA TPN MCCB as outgoing - 1 No. 63A, TPN MCB as outgoing - 6 Nos. 40A, TPN MCB as outgoing - 4 Nos. 0-250A, Ammeter with CT & inbuilt S/S - 1 No. 0-415V, Voltmeter with inbuilt S/S - 1 No. TP&N, Aluminum busbars of suitable size thick with PVC sleeving - 1 Set RYB, indicating lamps with resistors and fuses - 1 Set</p>	1.00	one set	74750.00	74750.00
7	<p>Supply, Installation and commissioning of UPS OUTGOING PANEL, floor mounted, front operated, dead back, totally enclosed vermin proof, indoor, non-drawout, cubicle type power dist. panel fabricated out of 2mm thick CRCA sheet having gasketed hinged door on each cubicle, fully powder coated / enamel painted after seven tank treatment, incorporating horizontal and vertical sleeved copper busbars 'complete with all internal wiring, danger board, two earthing lugs, cable chamber etc. as required' housing below mentioned switchgears / meters. Complete in all respects. This should comprise of following.</p> <p>250A 4P MCCB as Incomer - 1 No. 63A, 4P, MCB as outgoing - 5 Nos. 0-250A, Ammeter with CT & inbuilt S/S - 1 No. 0-415V, Voltmeter with inbuilt S/S - 1 No. TP&N, Aluminum busbars of suitable size thick with PVC sleeving - 1 Set RYB, indicating lamps with resistors and fuses - 1 Set</p>	1.00	one set	66890.00	66890.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
8	Supply and installation of 8 way, TPN, MCB type Lighting Distribution Board (LDB) flush mounted on wall, sheet metal fabricated, powder coated, having dust-proof and vermin' proof, and hinged door with all internals such as DIN rails, neutral-link, interconnected wiring complete with earthing lugs housing following switchgears: Complete in all respects. This should comprise the following. 40A, FP ELCB as incomer(100mA) - 1 No. 10A, SP, MCB outgoing(10KA) - 24 Nos.	1.00	one set	12334.00	12334.00
9	Supply, Installation and commissioning of 8 way, TPN, MCB type Power Distribution Board (PDB) flush mounted on wall, sheet metal fabricated, powder coated, having dust-proof and vermin' proof, and hinged door with all internals such as DIN rails, neutral-link, interconnected wiring complete with earthing lugs housing following switchgears: 63A, FP ELCB as incomer(100mA) - 1 No. 16/20A, SP, MCB outgoing(10KA) - 24 Nos.	1.00	one set	9344.00	9344.00
10	Supply, Installation and commissioning of 8 way, TPN, MCB type Computer Power Distribution Board (CPDB) flush mounted on wall, sheet metal fabricated, powder coated, having dust-proof and vermin' proof, and hinged door with all internals such as DIN rails, neutral-link, inter connected wiring complete with earthing lugs housing following switchgears, complete in all respects.: 40A, FP MCB Isolator as incomer(10KA) - 1 No. 16A, SP, MCB outgoing(10KA) - 24 Nos.	1.00	one set	10988.00	10988.00
11	Supply, Installation and commissioning of 8way SPNDB similar to above but for emergency lighting distribution (ELDB) having below mentioned switchgears, complete in all respects. 32A, DP, MCB as incomer - 1 No. 6A, SP, MCB, outgoing (10KA) - 6 Nos. Supply, Installation and commissioning of 20A, SP, MCB, box with 20A, metal clad plug-socket for termination of cable for room A/C	1.00	One set	3910.00	3910.00
12	CABLES / MAINS Supply & Installation of 1100V grade FRLS armoured cable having sector / circular shaped aluminum / copper conductor PVC insulated cores, laid up, PVC tape wrapped inner sheathed, GI strip / wire armoured and overall extruded PVC sheathed conforming to IS:1554 laid on wall/ceiling using GI clamps & spacers as per route shown at site and further as directed by Consultant at site in the following sizes, complete in all respects.: Supply & laying of 4R x 240 SQ.MM Copper flexible cable in suitable size of PVC Conduit.	30.00	RM	3450.00	103500.00
13	Supply & laying of 4C x 70 SQ.MM. copper flexible in suitable size of PVC Conduit.	20.00	RM	2000.00	40000.00
14	Supply & laying of 4C x 16 SQ.MM Copper armoured cable.	80.00	RM	1035.00	82800.00
15	Supply & laying of 4C x 10 SQ.MM copper armoured cable.	80.00	RM	690.00	55200.00
16	Supply & laying of 4C x 6 SQ.MM copper armoured cable.	75.00	RM	517.00	38775.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
17	Supply and installation of end terminations for above mentioned cables, including compressed type brass glands, crimping type copper lugs, insulation tape etc. as required complete with earthing of glands in following sizes, complete in all respects. 4R x 240 SQ.MM copper.	2.00	Each	1380.00	2760.00
18	4C x 70 SQ.MM. copper flexible	2.00	Each	920.00	1840.00
19	4C x 16 SQ.MM Copper armoured cable	2.00	Each	747.00	1494.00
20	4C x 10 SQ.MM copper armoured cable	2.00	Each	747.00	1494.00
21	4C x 6 SQ.MM copper armoured cable	2.00	Each	575.00	1150.00
22	WIRING - Supply & Installation of surface/concealed point wiring FRLS using 600v grade 1.5 SQ.MM copper conductor PVC insulated wires (with proper R,Y,B color code) pulled through 1.2mm thick PVC conduits laid concealed over false ceiling or in wall chases including 1.0 SQ.MM green color copper earth wire and provision of grid plate type switches as approved by architect, complete in all respects. Primary light points of 5A switch.	75.00	Each	1087.00	81525.00
23	Supply & installation of above for Secondary light points looped from the above point.	100.00	Each	385.00	38500.00
24	Supply & installation of Hub/Server Room Power Points(3R of 4sqmm copper wire in PVC conduit) with 32A Metal Clad Socket with M.S Enclosure control by a 32 A DP MCB.with Top in enclosure from Hub/Server room DB.	1.00	Each	2760.00	2760.00
25	Supply and laying of 1100V grade PVC insulated, copper conductor cables in 1.5mm thick P.V.C. conduits, run above the false ceiling, concealed in the wall or partition, saddles at every 600mm c/c. A separate neutral shall be run for each circuit. The rate shall include all fixing accessories like collars, tees, elbows, providing fan hooks, ceiling roses, holders, wooden blocks, switches, sockets, switch mounting MS boxes, MS Junction Boxes etc., of approved make, complete in all respects, for sl.No. 26, 27 & 28 (Separate rate is not required to be quote for item No.25)				

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
26	Supply and laying of 2 runs of 2.5 SQ.MM. PVC insulated copper conductor FRLS cable along with 1run of 1.5Sq.mm PVC insulated copper conductor cable. Run in a 19mm dia. 1.2mm thick PVC conduit on surface of the ceiling or in wall.	2000.00	RM	144.00	288000.00
27	Supply & fixing of 6/16A Plug Point directly taken from DB for Pantry/geyser / zerox / fridge/ split AC units.	25.00	Each	862.00	21550.00
28	Supply and laying of 2 runs of 4.0 SQ.MM. PVC insulated copper conductor FRLS cable along with 1 runs of 1.5Sq.mm PVC insulated copper conductor cable. (1-PH AC'S) Run in a 25mm dia., 1.2mm thick PVC conduit, on surface of the ceiling or in wall, complete in all respects.	400.00	RM	172.00	68800.00
29	Supply and installation of 6A, 5 pin 4 nos. shuttered type sockets controlled by 1no. 16A switch with suitable size of front plate etc. (UPS POWER set); Quantity of outlets are: 4nos. At each work stations, cubicles, 6 nos. each in rooms of PAs, in all cabins of GM, AGMs, conference rooms, ; location of the points will be finalised in consultation with engineer in charge, complete in all respects.	50.00	Each	1552.00	77600.00
30	Supply and installation of one no 6A/16A 5pin shuttered type sockets controlled by 1no. 6A switch with suitable size of front plate etc. (RAW POWER set)	50.00	Each	920.00	46000.00
31	EARTHING - Supply and installation of 2 nos. of separate earth pits each with material for power and network (including excavation) comprising of 600mm x 600mm x 3mm thick copper plate buried at a minimum depth of 2.5 meter including necessary materials like charcoal, salt etc as required conforming to BIS standards having brick masonry chamber with hinged cover and watering arrangement, complete in all respects.	1.00	Each	24150.00	24150.00
32	Supply and installation of copper /GI earthing wires/strips in following sizes 14 SWG copper bare wire	250.00	RM	57.00	14250.00
33	Supply and installation of isolated earthing system for computer etc. using insulated green yellow copper earthing wire laid through 20mm PVC conduits from separately made earth pit to the equipment in following sizes Supply and installation of 16 sqmm, cu., in 20mm PVC flexible conduit.	150.00	RM	172.00	25800.00
34	Supply and installation of 6 sqmm, cu in 20mm PVC flexible conduit.	350.00	RM	86.00	30100.00
35	LIGHTING FIXTURES - Supply & Installation of lighting fixtures with lamps as per the details below including necessary hardware such as clamps, nuts, bolts, nails, screws and suspension rods as required for fixing the fixtures in position as directed by architect / consultant, complete in all respects. Supply & fixing of energy efficient light fitting of Philips FBS 450/236 D6 HF wing -C- LX recess mounted direct, indirect light efficiency.	49.00	Each	5175.00	253575.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
36	Supply & Installation of Recess mounted down lighter luminaries with specular finish reflector 2 x 18 W CFL Cat No Philips make:FBH145/218.	12.00	Each	2300.00	27600.00
37	Supply & Installation of Occupancy sensors with bypass facility for cabins. This includes wiring from sensor to board and supply of required accessories. Make: Philips / Wipro / Steinel	5.00	Each	6325.00	31625.00
38	Supply & Installation of Exhaust Fans, 12" Size, Heavy Duty.	3.00	Each	1437.00	4311.00
	PART 'C' TOTAL	Rs.	1914715.00		
	PART 'D'- SMOKE AND FIRE DETECTION & ALARM SYSTEM				
1	Supply, installation and commissioning of microprocessor based, Two Loop Intelligent Addressable Fire Alarm Control Panel with independent battery backup suitable for 72 hours AND WITH the following features, complete in all respects.: a) 159 detectors and 159 modules per SLC loop b) The system display shall provide a 640-Character backlit alphanumeric Liquid Crystal Display (LCD). It shall also provide ten Light-Emitting-Diodes (LEDs), that indicate the status of the following system parameters: AC POWER, FIRE ALARM, PRE-ALARM, SECURITY, SUPERVISORY, SYSTEM TROUBLE, OTHER EVENT, SIGNALS SILENCED, POINT DISABLED, and CPU FAILURE. c) Built in Alarm, trouble and supervisory relays d) Response time of less then 2 seconds. e) UL Listed f) Pre-signal and Positive Alarm Sequence: The system shall provide means to cause alarm signals to only sound in specific areas with a delay of the alarm from 60 to up to 180 seconds after start of alarm processing.	1.00	One set	198145.00	198145.00
	g) Print Functions: The system shall provide means to obtain a variety of reports listing all event, alarm, trouble, supervisory, or security history. h) Shall comply with requirements of NFPA Standard 72 & NFPA - 318. The system shall be electrically supervised and monitor the integrity of all conductors.				

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
2	<p>Supply & installation of Intelligent Multicriteria Detector with mounting base and surface mounting kit and with following features:</p> <p>a) Addressable device, designed to monitor a minimum of photoelectric and thermal technologies in a single sensing device</p> <p>b) Utilizing advanced electronics that react to slow smoldering fires and thermal properties all within a single sensing device.</p> <p>c) Microprocessor design & shall be capable of selecting the appropriate sensitivity levels based on the environment type and then have the ability to automatically change the setting as the environment changes</p> <p>d) Twin LEDs for 360 degree viewing.</p> <p>e) UL Listed</p> <p>f) Operating Voltage :15 to 32 Vdc</p> <p>40 Nos. of these Multicriteria Detectors will be located above the false ceiling for detecting any short circuits and balance 52 Multicriteria Detectors will be located in ALL the cabins, electrical control room, server room, conference halls etc</p>	10.00	Each	5405.00	54050.00
3	<p>Supply & installation of Addressable Duct Sensor with housing and accessories and with following features:</p> <p>a) Continuous sensitivity monitoring and alarm verification from the panel</p> <p>b) Simple change of detector heads</p> <p>c) Easily mounting on round and rectangular ducts</p> <p>d) Air Velocity rating from 150 to 1200 metres per minute</p> <p>e) Poly Carbonate cover for the convenient visual inspection of sampling tube filters</p> <p>f) UL Listed</p> <p>g) Duct sampling tube should be of maximum 3.7 metres.</p>	2.00	Each	13800.00	27600.00
4	<p>Supply & installation of Addressable Manual Break Glass Point with accessories and with following features:</p> <p>a) Direct decade addressing</p> <p>b) Built in electronics</p> <p>c) LED for Activation</p> <p>d) Designed to the requirement of BS5839 part -2</p> <p>e) Operating voltage: 24 Vdc</p> <p>f) Key reset</p> <p>g) Meets UL-38 rating</p>	2.00	Each	5060.00	10120.00
5	<p>Supply & installation of Addressable Isolator Module with accessories and with following features:</p> <p>a) Powered by SLC loop directly</p> <p>b) Plug in connectors</p> <p>c) Address selector switches visible in 2 planes</p> <p>d) Approved to GEA GEI 1-082 and CEA GEI 1-084</p> <p>e) Surface Mounting box</p>	2.00	Each	5060.00	10120.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
6	Supply & installation of Addressable Control Output Module with accessories and with following features: a) Addressable Relay Module with dry contact output to activate auxiliary devices. b) Built in type identification. c) High noise immunity d) Operating Voltage: 15-32 Vdc e) UL Listed	2.00	Each	5405.00	10810.00
7	Supply & installation of Addressable Analogue Horn sounders and with following features: a) Addressable Horn Sounders shall be of general area coverage. b) Designed with dual front and rear sound paths, providing an 'all around' sound output - ideal for open area coverage. c) Powered directly from Panel. d) Rotary address switches e) Operating voltage: 24 Vdc f) UL Listed Cables and accessories: as required- 2 Core 1.5 sq mm armoured FRLS cable with suitable accessories. Make : Notifier	2.00	Each	43700.00	87400.00
8	Supply & laying of fire alarm cable 2 core, 1.5 Sq. mm armoured FRLS twisted cable with suitable accessories. Make: Notifier	200.00	RM	103.00	20600.00
PART 'D' TOTAL			Rs.	4,18,845.00	
PART E- IT NETWORKING					
1	Supply and installation of CAT 6 Gig speed information outlets with dual face plates. Quantity of outlets are: 2nos. At each work stations, cubicles, rooms of PAs; 4 nos. in all cabins of GM, AGMs, conference rooms, ; location of the outlets to be finalised in consultation with engineer in charge.	50.00	Each	434.00	21700.00
2	Supply, installation and termination of approved make telephone outlets RJ 11jack with dual face plate. Quantity of telephone jacks are: 2nos. At each work stations, cubicles, ; 4 nos. each in all cabins of GM, AGMs, conference rooms, rooms of PAs; location of the outlets to be finalised in consultation with engineer in charge.	50.00	Each	434.00	21700.00
3	Supply, laying and termination of Cat 6 Gig speed - 4 Pair 24 AWG UTP Cable, 305m with cross member pair separator complete as required. Each box contain 305 mtrs. of cable.	10.00	Each	8050.00	80500.00
4	Supply, laying and termination of 2pair 0.5mm dia shielded PVC insulated Copper conductor Telephone wire conforming to latest Standards.	2000.00	RM	3.00	6000.00

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
5	Supply, installation and dressing of Cat 6Gigaspeed Patch Panels for accommodating 24 port termination and shall facilitate cross-connection and inter-connection using modular patch cords and shall conform to EIA standard, 19-inch relay rack mounting requirements. Patch Panel shall come with preloaded information outlets. Panel shall have label holders and designation labels as part of the standard device. Shall also come with rear cable management metallic tray with Velcro ties complete as required.	2.00	Each	11500.00	23000.00
6	Supply, installation and dressing of Cat 6Gigaspeed Mounting Cords 3'-0" length for the Patch Panel End Connectivity, Both end shall be RJ 45 with snag less boots complete as required. Make :D-Link or TYCO for all items covered at 1 to 6	100.00	Each	230.00	23000.00
7	Documentation, testing certification included project management complete as required.	0.00	LS	0.00	0.00
8	End terminations for telephone cables into junction boxes.	2.00	Each	1495.00	2990.00
9	Providing and fixing of Pigtails for Server.	4.00	Each	2415.00	9660.00
10	Providing and fixing of slicing of cores.	6.00	Each	1092.00	6552.00
11	Supply and fixing of fibre patch cards.	2.00	Each	5750.00	11500.00
12	Supply and fixing of Powder coated metallic race ways for tables in cabins and conference halls.	12.00	Each	575.00	6900.00
13	Supply and fixing of 1 KVA online UPS system with all accessories with one hour back up. Make: APC	1.00	Each	51175.00	51175.00
PART 'E' TOTAL			Rs.	2,64,677.00	
Grand Total : (Part A+B+C+D+E)					79,98,116.40

Total : Rs. Seventy nine lakhs ninty eight thousand one hundred and sixteen only.

Service Tax:- The Service tax as applicable is extra which will be paid by BHEL to the agency after submission of necessary valid documents by the agency.

Note : The Tenders are required to quote the tender value on percentage (%) basis at excess or less or on as per estimate value

Tender %	In figure	In words
Excess		
Less		
Estimated value		

Name of the Contractor :

Signature of the Contractor

Accounts Representative

Opening officer

S No	Description of the item	Qty	Unit	Rate (Rs)	Amount (Rs)
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MAKE OF BOUGHT OUT ITEMS

Sl. No.	Description of Materials	Name of Make
1	Wires	Finolex / L&T
2	Telephone Wire	Finolex / L&T
3	Telephone Socket	Roma / Cabtree
4	Cable	Finolex / L&T
5	Modular Switch & Socket	Roma / Cabtree
6	Distribution board	AGER / GE / SIEMENS
7	MCB/ELCB	AGER / GE / SIEMENS
8	MCCB	AGER / GE / SIEMENS
9	Measuring Instrument	Conzerve
10	CT (Tape wounded)	Kappa
11	Indicating lamp	L&T / SIEMENS
12	Selector Switch	Kaycee
13	Light fixtures	Philips
14	Exhaust Fan	Crompton
15	Flourescent Tubes	Philips
16	Crimping/Soldering	Dowels/Braco
17	Terminal Connectors	Wago
18	PVC Pipe	Sudhakar
19	Insulation Tapes	Steelgrip
20	Data Cable	D-Link/Krone
21	Data Socket	D-Link/Krone
22	Panel	CPRI Approved Panel Manufacture
23	Raceways	Locally fabricated