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PROJECT- BOQ FOR ELECTRICAL WORK					
BANK- INDIAN BANK					
BRANCH- RAEBARELI					
ZONAL OFFICE- PRAYAGRAJ					
S. No.	**DESCRIPTION OF WORKS**	**UNIT**	**QTY**	**RATE**	**AMOUNT(RS.)**
A.	***POINTS & WIRING***				
1.	**LIGHTS POINTS**				
1	Wiring for light point/ fan point/ wall fan point/ exhaust fan/ light sockets etc. with 1.5 sq.mm. PVC insulated 1100 V Grade copper conductor (FRLS) wires & 1.5 sq.mm. copper earth wire in concealed/ surface using 16 SWG MS conduits, accessories such as bends, tees, saddles, draw boxes, mounting boxes, inner plates, cover plates, ceiling rose etc. (where ever required) and chromium plates brass screws/ rowel plug etc. The circuit wiring starting from DB to point control box/ switch box using 2 X 2.5 sq.mm PVC insulated 1100 V grade multi stranded copper conductor wire & 2.5 sq.mm. PVC insulated earth wire (color code to be used). (Flexible conduit/ elbow not allowed). The conduit to be laid in ceiling with proper clamps/ wall/ floor and filling the chase with cement mortar and finishing the same in original form/ wooden partition/ above false ceiling with proper clamps etc. all complete.				
	(Wherever required as per standard specifications).				
	i) Each circuit shall have independent earth wire.				
	ii) Each point shall be earthed.				
	iii) Circuit wiring is to be included in point wiring rates.				
i	Primary points controlled by one 6 amp. Modular switch.	Nos.	32		
ii	Secondary light points controlled by one 6 amp. Modular switch.	Nos.	10		
iii	One call bell point with ceiling rose/ 6amp. 3 pin socket controlled by one 6 amp. Push Modular switch. With call bell	Nos.	1		
iv	One 5 pin socket controlled by one 6 amp. Modular switch complete assembly includes plate box etc. Dependent	Nos.	8		
v	Same as serial no 1 but using 2*2.5 + 1*2.5 Sq.mm Copper Conductor FRLS wires from DB to first 6A, 5 Pin modular socket controlled by one 6A switch and looped to the nearest second point with same 2*2.5 + 1*2.5 Sq.mm copper conductor wires FRLS insulated 1100V grade (max 3 points per circuit).				
a	Primary Point	Nos.	4		

b	Secondary Point looped	Nos.	5		
2	**POWER POINTS**				
	Same as serial no.1, but wiring for 16 Amp, 6-pin sockets by using 2*4 sq.mm. PVC insulated 1100 V grade copper conductor wire with independent 1* 4.0 sq.mm earth wire from D.B. to first point 1 st socket and 1st to 2nd, socket with 2*2.5 sq.mm and 1*2.5 earth wire including providing and fixing of 16 Amp, 6 –pin socket with 16 Amp. Switch. (Modular type switch/ socket/ plate etc. complete assembly) max 2 points per circuit.				
a)	Primary Point	Nos.	7		
b)	Secondary Point	Nos.	3		
3	**AC POINTS FOR INDOOR & OUTDOOR UNITS**				
3(a)	Same as serial no.1, but wiring for A/C socket by using 2*4 sq.mm. PVC insulated 1100 V grade copper conductor wire and earthing with 1*4.0 sq.mm. PVC insulated 1100 V grade copper conductor wire with modular type AC box (tiny trip type) with socket complete in all respects controlled by 25/32 A SP MCB to be provided near indoor unit. The point starts from DB to stabilizer to the point near the indoor unit including top.	Nos.	1		
4	**COMPUTER POINTS**				
a	Wiring with 2x2.5 sq.mm. + 1x2.5 sq.mm. PVC insulated 1100 V grade multi stranded copper conductor wires in 2 mm thick PVC conduit from UPS DB to computer point. Each point to have 3 nos. 6 amps. 5 pin modular type sockets, one 6 amps modular switch with all accessories, inner/ outer plates, metal box etc. and to be fixed on wooden partitions/ by grouting on wall etc. as per requirement at site. The switch should be fixed above the top of counter with indicator and sockets under the counter b) Same as above but looped from the above 1st point to 2nd, point and 2nd point to 3rd point. (Maximum 3 points in a circuit)				
	Primary Points	Nos.	10		
b	Wiring with 2x2.5 sq.mm + 1x2.5 sq.mm PVC insulated 1100 V grade multi stranded copper conductor wires in 2mmthick PVC conduit from UPS DB to computer point. Each point to have 1 nos. 16 amps 5 pin modular type sockets, 1 No's 16 amps modular switch with all accessories, inner/ outer plates , metal box etc and to be fixed on wooden partitions/ by grouting on wall etc as per requirement at site. The switch should be fixed above the top of counter and sockets under the counter. or as directed by the engineer in charge for the rack supply in PA rack, CCTV b) Same as above but looped from the above 1st point to 2nd point (Maximum 2 points in a circuit)				
	Primary Points	Nos.	2		
B.	***CONDUITING FOR TELEPHONE, COMPUTER & CONDUITING, WIRING FOR T.V. SYSTEM.***				
1.0	**TELEPHONE SYSTEM**				

1.1	Wiring for VOICE from Jack Panel in data rack to computer workstation with Cat-6 voice cable in PVC conduits of size 20/ 25 mm including providing ferrules at both ends and termination at both ends including providing & fixing frame for Cat-6 with shutter, RJ 45 outlet, faceplate and mounting box complete of modular type. This work includes supply and laying of CAT-6 cable in PVC conduits throughout the length, from the I/O hub to the point.	Nos.	2		
1.2	Supplying, laying, effecting terminations, testing and commissioning of 0.51 mm dia Cu. Conductor, twisted, colour coded with polythene capor barrier, telephone cables in the existing tray or in conduit including providing &fixing conduit pipe or cable tray as required from building tag block to the floor as required.				
a)	Supplying & fixing 20 pair krone tag block with enclosure.	Nos.	2		
b)	P/L 20 Pair of PVC insulated PVC sheathed multi core jelly filled armored telephone.	Mtr.	15		
2.0	**COMPUTER NETWORKING**				
2.1	Wiring for computer networking from Jack Panel in data rack to computer workstation with Cat-6 computer cable in PVC conduits of size 20/ 25 mm including providing ferrules at both ends and termination at both ends including providing & fixing frame for Cat-6 with shutter, RJ 45 outlet, faceplate and mounting box complete of modular type, This work includes supply and laying of CAT-6 cable in PVC conduits throughout the length, from the I/O hub to the point.	Nos.	14		
2.2	Supplying and fixing 9 U (Rack with glass door, opening in the front power panel 1 (horizontal), cable manager 1 lock & key).	Nos.	1		
2.3	Supply, Installation, Testing & Commissioning of 24 port Jack Panel.	Nos.	1		
2.4	Supplying and fixing Patch Cord-2 Meter- (DBPS Mounting Cord)	Nos.	14		
2.5	Supplying and fixing Patch Cord-1 Meter-	Nos.	14		
3.0	Supply and fixing of 1.6 mm thick G.I. Box along with RG 6 T.V Co axial socket with Cover Plate.	Nos.	1		
C.	***CABLES, MAINS & SUBMAINS***				
1	Supplying all materials and laying/ pulling 1100 volts grade PVC insulated copper conductor wires (FRLS) in MS conduit with all fixing accessories after cutting the floor, wall and the like etc. and plastering the floor level to original. Conduit must be 30 mm below the floor finish level.				
i	2 X 4 sq.mm. + 1 X 4 sq.mm.	RM	20		
ii	2 X 6 sq.mm. + 1 X 6 sq.mm.	RM	16		
iii	2 X 10 sq.mm. + 1 X 6 sq.mm. (Branch UPS DB)	RM	18		
iv	1 X 10 sq.mm. Cu wire for earthing. (UPS Input/Output)	RM	18		
v	Supplying, laying, testing & commissioning of 4 C X 10 sq.mm. at 1100 volts grade PVC insulated aluminum conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification (Light DB).	RM	18		

vi	Supplying, laying, testing & commissioning of 4 C X 25 sq.mm. at 1100 volts grade PVC insulated aluminum conductor armoured cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories, Clamps etc. as required as per specification (Power + AC DB).	RM	12		
vii	Supplying, laying, testing & commissioning of 3.5 C x 50 sq.mm. at 1100 volts grade PVC insulated aluminum conductor armored cable with 10 gauge earth copper wire including cables end termination using appropriate Lugs, Glands, termination accessories , Clamps etc. as required as per specification. (Mains)	RM	10		
D.	***DISTRIBUTION BOARD***				
	Supplying, installing, testing & commissioning of surface/recessed mountings, Double door 415 volts TPN MCB distribution board of steel, 1.6 mm thick dust phosphatized and painted, inclusive of 100 amps, tinned copper bus bars, earth bar, common neutral link, din bar for mounting of MCB's detachable gland / knock out plate & with built in loose wire box, and superior make terminal connectors for all incoming and outgoing circuits duly prewired with adequate size of PVC insulated copper wires between the bus bars and the MCB's as well as the incomer and up to the terminal connectors/ neutral link and ready for installation of following ways as required.				
	Use 'B' curve MCB's for lighting & small power circuits, 'C' curve for motor duty i.e. for pumps, AC motors, window and split AC's etc. & 'D' curve for UPS DB's i.e. for computers/ PC's circuit. Main incomer & outgoing circuit MCB's shall be selected accordingly i.e. type B, C & D. Contractor to select the MCB's accordingly as per the nature of the circuit/ load.				
	Each DB shall have separate neutral links of rating not less than 100A for each phase. The main incoming neutral link shall be in addition to three outgoing neutral links and shall be of 125 A.				
	UPS DB's shall have a dedicated Earthing link fixed on insulated supports, which will be in addition to body earth link.				
	All internal inter connecting wiring with in the DB's shall be PVC insulated flexible copper conductor wires of adequate capacity as per the current rating.				
	Inside each DB, a DB chart is to be fixed.				
a	**4-way TPN DB (LIGHT DB)**	No.	1		
	Incomer:-				
	1 No. 40 Amp TPN (10 KA) MCB with 40 A DP RCCB (100 MA) each phase				
	Outgoing:-				
	6 Nos.6/10 Amp (10 KA) SP MCB				
b	**4-way TPN DB (Power DB)**	No.	1		
	Incomer :-				

	1 No. 63 Amp TPN (10 KA) MCB with 63 A DP RCCB (100 MA) each phase				
	Outgoing :-				
	6 Nos. 10/16/25/32 Amp (10 KA) SP MCB				
c	**4-way TPN DB (AC DB)**	No.	1		
	Incomer :-				
	1 No. 63 Amp TPN (10 KA) MCB with 63 A DP RCCB (100 MA) each phase				
	Outgoing :-				
	6 Nos. 10/16/25/32 Amp (10 KA) SP MCB				
d	**4-way SPN DB with 2 Nos. 40 A (10 KA) DP MCB (For UPS Input)**	No.	1		
e	**(2+8)-way SPN DB (For UPS Sub DB)**	No.	1		
	Incomer:-				
	1 No. 40 Amp DP (10 KA) MCB with 25 A DP RCCB (100 MA)				
	Outgoing:-				
	6 Nos.6/10/16/25Amp (10 KA) SP MCB				
f	8 Way SPN DB for E- Lobby complete with lock & Key Arrangement with 40A DP MCB & 32 A DP RCCB (100 mA) and Outgoing as 4 No's of 6/10/16/25/32 A SP MCB as directed by the engineer in charge for E-Lobby AC- 2 No's and Light.	Nos.	0		
g	6 Way SPN DB for E- Lobby complete with lock & Key Arrangement with 25 A DP MCB & 25 A DP RCCB (100 mA) and Outgoing as 4 No's of 6/10/16/ SP MCB as directed by the engineer in charge for E- Lobby UPS points.	Nos.	0		
E	***(LIGHT FITTINGS & ACCESSORIES)***				
	Supplying, installation with hanging support, testing and commissioning of following light fixtures with electronic Ballasts, Tubes, lamps, all fixing materials including connecting wires etc. all complete as per the directions of Engineer-in-charge (All LED Light Fixtures should be covered with minimum 3 Years onsite replacement warranty).				
i	LED 18 W tube 4'-0" As specified in tender document or approved by	Nos.	7		
	/Architect.				
ii	FULL GLOW 2 X 2 LED 36 W slim Smart Panel of make As specified in tender document or approved by Architect.	Nos.	25		

iii	Supplying, fixing, testing and commissioning of 15 W LED commercial type down lighter of make As specified in tender document or approved by Architect.	Nos.	35		
iv	LED Strip for cove lighting 15 W per 5 M with driver and necessary installation fittings Led strip light (5 mtr.) make as specified in tender document or approved by Architect.	Nos.	7		
v	Supply & fixing of the 1200 mm 48") Sweep Ceiling fan with downward rod(below false ceiling), canopy etc. including of PVC flexible copper wire.(white colour)(High speed) (Warranty Cerificate is necessary)with downward rod, circular boxes, ball sockets, ceiling plates,suitable arm bracket etc. including connection with wire)White colour (WITH REGULATOR)	Nos.	4		
a	Wall mounted fans (METAL BODY) 450 mm dia. make As specified in tender document or approved by concerned office in charge.	Nos.	17		
b	Supply & fixing of 230 mm exhaust fan 'Ventilair DX W' with self-closing louvers and plastic body with all accessories etc. complete of make As specified in tender document or approved by concerned office in charge.	Nos.	2		
F.	***EARTHING SYSTEM***				
1	Supply, Installation, Testing and Commissioning of Maintenance Free Earthing system made up of copper bonded rod of 10 feet length, 23 mm dia. (Minimum copper bonding shall be 0.25mm) along with Rod-to Conductor connectors, Earth enhancement material, Pit Cover and other accessories as required and as per specification and other applicable codes (include chamber for earthing, Earthing certificate to be submitted along with the bill).	Nos	1		
2	Supply, Installation, Testing and Commissioning of Maintenance Free Earthing system made up of copper bonded rod of 10 feet length, 17.2 mm dia. (Minimum copper bonding shall be 0.25 mm) along with Rod-to- Conductor connectors, Earth enhancement material, Pit Cover and other accessories as required and as per specification and other applicable codes (include chamber for earthing, Earthing certificate to be submitted along with the bill).	Nos	1		
3	Providing and fixing of Copper/ GI strips in surface or in recess for loop earthing etc. as required.				
i	25 mm x 3 mm copper strip in B-class GI pipe	RM	12		
ii	25 mm x 5 mm GI strip	RM	10		
iii	Providing and fixing 2 X 8 SWG dia. Cu earth wire in PVC conduit on surface or in recess for loop earthing along with the existing surface/ recess cable as required.	RM	16		
G.	***MAIN PANEL AND METER BOARD***				

	Designing, fabrication, supply, installation, testing and commissioning of front operated cubicle type compartmentalized, front access, free standing on 75MM "[" MS channel, dust and vermin proof (IP 42 degree protection) panel suitable for use at 415V, 3 phase, 4-wire 50Hz system suitable for fault level of required value symmetrical at 415V fabricated from 2mm thick CRCA MS sheets with hinged, gasketted (Metal based neoprene) lockable doors having structural reinforcement including 3mm thick gland plates on top and bottom, lifting hooks, GI earth strip of required size with 2 no's earth terminals, 2 no's 230V AC operated 250 mm X 250 mm size axial fans for exhaust of heat with On-Off toggle switches including 2 coated primer and 2 power coated paint finish of approved shade over metal surface cleaned and treated with seven tank process complete with interconnections etc. as per specifications as required. Main panel board of approved make (Should be CPRI Approved, Type of Approval as instructed by the concerned office in charge)				
	As per the following specifications, (Part IV - Substation) and IS: 8623 comprising of followings panel mounting switchgears etc. as required, should be CPRI Approved.IS: 8623 comprising of followings panel mounting switchgears etc. as required, should be CPRI Approved. Note: Type of CPRI testing shall be as per Architect/ Bank's instructions. All switchgears shall have provision for entry of cables from the top or bottom through Cable Alley.				
	All live accessible parts shall be shrouded and all equipment shall be finger touch proof. The bus bars insulation shall be with heat shrinkable sleeves SMC/ DMC shrouds and bus bar supports shall be used. Padlocking facility shall be provided on all outgoing feeders' doors and switch handles shall be lockable in OFF position.				
	Suitable arrangement shall be made for termination of multiple incoming cables.				
	All KA values indicated shall be ICS breaking capacity				
	GA drawings shall be got approved by concerned office in charge.				
a.	Floor panel shall consists of : -				
	INCOMER				
	1 no. 100 Amp 4P On Load Change over switch with 1 No. 100 Amps,TPN MCCB (25 KA) with extendable rotary handle each thermal over current, instantaneous, Short circuit release, Earth fault.				
	BUSBARS				
	125 amps TPN pole bus bar chamber of suitable length with copper bus bars. All bus bars and interconnections shall be of suitable size copper strips.	Set	1		
b.	**INDICATING PANEL**				
	Digital flush type class-1.0 accuracy multifunction meter showing V, A, PF etc. with 3 Nos. Current Transformers of 125/5A ratio, 15 VA Class-1.0 metering. - 1 sets				
	Red/Green/Amber ON/ OFF/ TRIP indicating lamps with 2A SP MCB backup				

	protection.				
	1 set of three phase indicating lamps along with 2A SP MCB backup protection.				
	Restricted Earth fault relay with 3 Nos. current transformers of 125/5 ratio, 15 VA Class 5P 10 (Numeric Relay not required.)				
	Under voltage, Overvoltage & phase reversal relay for persisted voltage of 105-180% & 20-95% of rated voltage (Numeric Relay not required).				
	OUTGOINGS:-				
	2 Nos 40 A TPN MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. (For Light DB & Spare)				
	3 Nos 40 A DP MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars.				
	2 Nos 63 A TPN MCB (10 kA) terminals suitable to receive cable on one side and wire connection to Bus bars. (for AC and Power DB)				
	The electrical panel as described above and specifications complete.	Set	1		
c.	9U Equipment Rack complete with mounting unit, speaker, power supply control etc. President make suitable for 1x70 watts amplifier system With all terminating set up.	Nos.	1		
J	***GENSET WIRING***				
a.	Supply laying fixing Main power with (**3.5 core 35 Sq.mm/As per requirement & load calculation of DG Set)** PVC insulated,PVC sheathed **(Alu/CU conductor/Selection based on Load requirement)** ,1100 V, grade armoured cable complete with 02 nos. **8 SWG bear GI wire/ As per requirement & load calculation of DG Set**	Mtr.	10		
b.	End termination of 3.5 core 50 Sq.mm armoured cable, complete with brass	Nos.	2		
	cable Gland, Alu Lug, PVC tape **(Selection based on Load Analysis/ As per requirement & load calculation of DG Set/Standard IS Rule)**				