



**PRICE BID**

**Annexure-III**

**BOQ for Electrical Installation Works at IIT Bihta Campus Branch and ATM**

Sl.No.	Description	Qty.	UOM	Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
1	<p><b>MAIN INCOMING SOURCE PANEL (MISP) :</b> Supply, installation, testing and commissioning of main incoming (MIP) Panel suitable for wall /floor mounted indoor type, air insulated, totally enclosed vermin-proof , dead front, cubicle type, 2 mm thick sheet steel enclosure use on 415 V, 3 Ph, 4 wire, 50 Hz. A.C. system, instrumental panel, CTs, incoming and outgoing cable compartment. The Panel shall be complete in all respect as per site requirement, interconnection, G.I. earth busbar of adequate size covering the total length of switch board with drilled holes, G.I. bolts, nuts, washers etc. as directed by E-I-C. The cubicle should be painted with two coats of light grey synthetic enamel paint over two coats of zinc chromate primer. The complete fabrication, construction shall be done as per the site condition and conforming to the relevant IS. Approval of Manufacturer's drawings from E-I-C.</p>				
	<p>The Panel consists of the following</p> <p><b>INCOMING :</b></p> <p>1 No. : 415V, 160 A 4P MCCB (36 KA), with overload and short circuit adj protection for Main Line ,</p> <p>1 No. : 415V, 100 A 4P MCCB (36 KA), with overload and short circuit adj protection for DG Incoming ,</p> <p>1 No. : 415V, 100 A 4P On-Load Changeover Switch</p> <p>2 No. : Digital Multi Function Meter (MFM) one for DG and one for main Line</p> <p>6 Nos.: LED Phase indicating lamps.</p> <p>6 Nos.: Suitable CTS</p> <p>PVC sleeved TPN Tinned suitable rating Copper Busbar with suitable Double Bus bar System (such that DG Set should feed power to UPS, raw power VTPN , sign board power &amp; ATM in case of power failure through on load change over switch)</p> <p>G.I. EARTH BUSBAR 25mm x 3mm covering the total length of panel.</p> <p><b>OUTGOING :</b></p> <p>Termination I: (To be connected with Change over)</p> <p>1 No: 63 A 4P MCCB (25 KA) for UPS ,</p> <p>1 No: 63 A 4P MCCB (25 KA) for Raw Power VTPNs</p> <p>1 No: 63 A 4P MCCB (25 KA) for ATM</p> <p>3 No: 32 A DP MCB for Sign Boards and others</p> <p>Termination-II: (Not to be connected with Change over)</p> <p>1 No: 63 A 4P MCCB (25 KA) for AC VTPN</p> <p>MCCBs Make - Legrands/L&amp;T/SIEMENS/ABB/Schneider Electric/Havells or equivalent .MCCBs must have thermal &amp; magnetic release,with overload and short circuit adj protection</p>	1	SET		
2	<p><b>Sub-main line:-</b></p> <p>Wiring in MS conduit of IS specification of Proper size with core PVC insulated stranded copper wire 1.1KV grade FRLS/FR-LSH (Finolex/Havells/Polycab/ RR Kabel/ Richa/KEI or equivalent) and with supply ,installation, commissioning of all the materials required including proper termination, connection in complete as required from main DB to various DBs of approved Make:-</p>				
i)	With 2 nos. 6 Sq.mm + 1 no. 6 Sq.mm. (green colour for earth) PVC insulated copper wire in MS conduit for LDB/ RPDB/ CDB or as per site requirement.	115	RM		
ii)	With 2 nos. 10 Sq.mm + 1 no. 6 Sq.mm. (green colour for earth) PVC insulated copper wire in MS conduit from UPS to UPS DB or as per site requirement.	35	RM		
iii)	With 2 nos. 6 Sq.mm + 1 no. 6 Sq.mm. (green colour for earth) PVC insulated copper wire in MS conduit for 2.0 Tr Cassette ACs or as per site requirement.	110	RM		
iv)	With 2 nos. 4 Sq.mm + 1 no. 4 Sq.mm. (green colour for earth) PVC insulated copper wire in MS conduit for AC(1.0/1.5 Tr) Wiring or as per site requirement.	30	RM		

Sl.No.	Description	Qty.	UOM	Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
3	Supply ,installation ,testing and commissioning of distribution board manufactures made sheet steel enclosure With the following MCBs (DB, MCB and MCCB approved make) and connecting the same to the system.Make - Legrands/Havells/L&T/SIEMENS/ABB/Schneider Electric/Hager or equivalent)				
i)	Computer DB, SPN double door with 40A (30mA-100 mA sensitivity) DP RCCB as incomer & 8 nos 10A SP MCB as outgoing.	2	No.s		
ii)	Raw Power DB, SPN double door with 40A (30mA-100 mA sensitivity)DP RCCB as incomer & 8 nos 10A SP MCB as outgoing.	1	No.s		
iii)	(A) UPS INCOMING DB: Supply of all required materials and fixing of input UPS box (Company made) having provision of the following arrangement complete with all respects as per the direction of engineer in charge. Incoming: 1 No. 63A TPN MCB (10KA) Outgoing: 3 Nos. 63 A (10KA) DP MCB	1	No.s		
iv)	B) UPS OUTGOING DB for UPS : Supply of all required materials and fixing of output UPS box (Company made) having provision of the following arrangement complete with all respects as per the direction of engineer in charge. Incoming: 1 no. 63 A DP MCB , Outgoing: 5 No. 40A (10KA) DP MCB	1	No.s		
v)	ONLOAD CHANGE OVER SWITCH: SITC of 1 no. 415V, 63A, 2P with on indication on load Change over switch with suitable enclosure. Complete with all respect.	1	No.s		
vi)	DB with 25 A DP RCCB (30mA to 100 mA), AC Socket & Top for AC complete in all respect	6	No.s		
vii)	VTPN Double Door Distribution Board with provision of fixing MCCB as incomer, having vertical fish bone busbar, with all internals such as DIN channels, neutral link, internal wiring , termination of circuits complete in all respects with housing of following:- 63 A 4 Pole MCCB ( 25kA) as incomer and ,12 Nos. 40 A SP MCB's, at outgoing of approved make( for RPDB/LDB/BM AC/Server AC power etc)	1	Set		
viii)	VTPN Double Door Distribution Board with provision of fixing MCCB as incomer, having vertical fish bone busbar, with all internals such as DIN channels, neutral link, internal wiring , termination of circuits complete in all respects with housing of following:- 63 A 4 Pole MCCB ( 25kA) as incomer and ,12 Nos. 32 A SP MCB's, at outgoing of approved make( for ATM etc)	1	Set		
ix)	VTPN Double Door Distribution Board with provision of fixing MCCB as incomer, having vertical fish bone busbar, with all internals such as DIN channels, neutral link, internal wiring , termination of circuits complete in all respects with housing of following:- 63 A 4 Pole MCCB ( 25kA) as incomer and ,12 Nos. 32 A SP MCB's, at outgoing of approved make( for ACs )	1	Set		
x)	LDB : Consumer unit SPN MCB DB complete with all respects and the following MCBs. INCOMING : 1 No. 240V 32A(10KA) (30mA-100mA) DP MCB OUTGOING : 8 Nos. 240V 6A-16A (10 KA) SP MCB	1	Set		
4	Supplying, installation, testing & commissioning, laying, lugging, etc of PVC insulated aluminium armoured 1.1 KV grade 3.5 cored cable of following size with making proper trench/support on wall as per IS specification and complete with all respect as per the instruction of Engineer-In-Charge (E-I-C) .				
i)	With 3.5 core x 25 sq. mm cable	135	RM		
ii)	With 3.5 core x 95 sq. mm cable	75	RM		
5	Copper Bonded Rod Earthing. SITC of OBO Betterman/JK/JEF eco safe/ make earthing system - * - UL Listed Earth Electrode - Copper bonded low carbon steel electrode, coating 250 microns - Tested as per IEC 62561-2 - Meets the requirement of IS 3043 and In one set it should include: a) One nos of Earthing rod-Type 17 3000 CCER, Length - 3000 mm Outer Dia - 17.2 mm Copper bonded low carbon steel Electrode WITH 250 microns copper bonded b) One bag (10 KG) Earth Enhancement Compound confirming to IEC 62561-7 c) One nos of universal clamp . Product Certificate of company must be provided. Earth Test Report to be submitted. (Including ATM Earthing)	3	No.s		
6	SITC of Earth distribution Box (Bus Bar Station) to be installed in the branch near Main Panel ,UPS and e-lobby, comprising of a bus bar of 3x25x180mm Cu strip.	3	SET		

Sl.No.	Description	Qty.	UOM	Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
7	Supply and laying of 8 SWG Cu cotton coated wire in 20 mm dia rigid PVC conduit for earthing From the earth pit to the Main panel/UPS.	225	Mtr.		
8	<b>Computer Socket Outlet:</b> Computer point wiring in MS conduit of IS specification of proper size with 2 Nos. 2.5 Sq.mm. + 1 x 2.5 Sq.mm. (green colour for earth) PVC insulated copper wire (1.1 KV grade FRLS/FR-LSH) in pre - laid (as per ISI) single core PVC insulated stranded copper wire 1.1KV grade(Finolex/Havells/Polycab/ RR Kabel/ Richa/KEI or equivalent) and with all material supply installation and commissioning complete from CDB/PDB(Raw) .The wiring shall be carried out on surface above false ceiling by chiseling the existing surface and plastering the same with cement etc. after fixing the MS conduit with all accessories like saddles screws, bends T-joint etc. 2 coats of painting Matching to the surface including supply installing, testing, commissioning of modular plate type switch and socket:Each computer socket outlet cluster consists of following <b>4 nos 6/10A 5 pin modular type international sockets with single 16A Modular type controlling switch with indicator on table top.</b> (Legrands / MK/ABB/Havells or equivalent) for computer terminal on sheet steel enclosure (cadmium plated),duly fitted with screw to the steel conduit and fixed to the wall partition furniture with all interconnection and proper earthing .All the opening shall be covered with blank plate and be sealed to make the box vermin proof.B48	7	No.s		
9	Raw Power point wiring in MS conduit of IS specification of proper size with 2 Nos. 2.5 Sq.mm. + 1 x 2.5 Sq.mm. (green colour for earth) PVC insulated copper wire (1.1 KV grade FRLS/FR-LSH) in pre - laid (as per ISI) single core PVC insulated stranded copper wire 1.1KV grade(Finolex/Havells/Polycab/ RR Kabel/ Richa/KEI or equivalent) and with all material supply installation and commissioning complete from RPDB/PDB(Raw) .The wiring shall be carried out on surface above false ceiling by chiseling the existing surface and plastering the same with cement etc. after fixing the MS conduit with all accessories like saddles screws, bends T-joint etc. 2 coats of painting Matching to the surface including supply installing, testing, commissioning of modular plate type switch and socket:Each computer socket outlet cluster consists of following : <b>2 nos 16/20A 5 pin modular type international sockets with single 16/20A Modular type controlling switch.</b> (Legrands / MK/ABB/Havells or equivalent) for computer terminal on sheet steel enclosure (cadmium plated),duly fitted with screw to the steel conduit and fixed to the wall partition furniture with all interconnection and proper earthing .All the opening shall be covered with blank plate and be sealed to make the box vermin proof.B48	10	No.s		
10	<b>POWER SOCKET OUTLET AND ITS WIRING</b> Raw power socket outlet cluster point including supply and fixing of modular type socket outlet clusters components and wiring 1100V grade, FRLS complete in all respect as detailed below. 1Nos. 16/20A 5 pin modular type International sockets and 1 No. 16/20A modular type controlling switch with 2 Nos. 4 Sq.mm. + 1 x 2.5 Sq.mm. (green colour for earth) PVC insulated copper wire in pre - laid (as per ISI) M.S. conduit including interconnection, painting etc. as required to be completed in all respect from DB to UPS/RAW Power Outlet. Proper colour code must be followed.	4	No.		
11	Wiring for light/fan/exhaust fan points using 3 X 1.5 Sq MM 1.1 kV grade PVC insulated stranded copper conductor wire(Finolex/Havell's/Richa/RR kebel/KEI/Polycab or equivalent) for phase, neutral and earth in 25 mm dia heavy duty MS conduit along with associated accessories like MS junction boxes, bends, saddles, screws etc. concealed in wall, floor, under flooring, below false ceiling or on surface as well as suspended from ceiling with 25mm X 3 mm MS flat suspenders duly painted above false ceiling from individual light/Fan/Exhaust Fan point outlet. etc. to individual modular type switch boards, 10 Amp modular plate type switches etc.(MK/Legrands/Havell's/ABB or equivalent), as required complete including circuit wiring with 3 X 2.5 sqmm. 1.1 kV grade PVC insulated stranded copper conductor wire and as per site requirement and as instructed by Engineer-In -Charge.				
i)	One light controlled by one switch	70	No.s		
ii)	Wall fan point with 3 pin socket	7	No.s		
iii)	Glow sign board wiring	2	No.		

Sl.No.	Description	Qty.	UOM	Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
iv)	1x16A 2/3 pin modular socket with switch on separate switch board outside the Cash Room complete with wiring. Suitable Top to be provided for supply to Cash Room, Record Room, Stationery Room etc.	2	No.		
v)	6/10 A modular socket & switch at same board	7	No.s		
vi)	Ceiling Fan Point with electronic modular type regulator ( 2 module step, 120 watt rating)	2	No.s		
vii)	UPS light points(including UPS Room)	6	No.		
viii)	Exhaust fan point	1	No.		
<b>Part B- SUPPLY AND INSTALLATION OF ELECTRICAL FITTINGS</b>					
12	Supply ,Installation ,testing & Commissioning of 36W-2'x2' LED Panel light/luminaire recessed mounted complete with all accessories. lumens >3000. Make: Philips/Wipro/GE/Crompton Greaves/Syska/Havells	11	No.s		
13	Supply ,Installation ,testing & Commissioning of 15W LED Downlighter recessed mounted of make complete with all accessories Make: Philips/Wipro/GE/Crompton Greaves/Syska/Havells	55	No.s		
14	Supply installation testing and commissioning of 18W LED T5 Batten with glare free light fitting complete with all respect. Make: Philips/Wipro/GE/Crompton Greaves/Syska/Havells	6	Nos		
15	Supply & fixing of 35W LED Street Light with suitable mounting pipe & CFL Lamp etc. of Make: Philips/Wipro/GE/Crompton Greaves/Syska/Havells complete in all respect	2	Nos		
16	Supply and installation of Wall Mounted fan 450 mm ,3 pin Metallic Blade ,1400 rpm of crompton/bajaj/usha/orient/Havells/Polar make or equivalent	7	No.s		
17	Supply and installation of Ceiling fan 1200 mm crompton greaves/bajaj/usha/havell's/orient make	2	No.s		
18	Supply and installation of Exhaust Fan complete with all respect .Make: crompton/bajaj/usha/havell's/Orient make	1	No.s		
<b>Part C- LAN CABLING WORK</b>					
19	Supply and laying of E-Cat 6 UTP cable for the Data Circuit through the PVC conduit ,Rate to include for termination on both end or as directed by E-I-C(Make: D-Link, AMP, HCL,DIGISOL)	495	Mtr		
20	Supply and fixing of information outlet box suitable for 1 nos,RJ 45 terminals including mounting box(PVC) & top cover , to be fixed in a concealed manner in partition by necessary bolts & nuts or as directed at site,(Make: D-Link, AMP, Legrand ,HCL,DIGISOL)	14	No.s		
21	Supply of 2 mtr. Long E-CAT 6 PATCH CHORD (Make: D-LINK, AMP, HCL, Legrand, Digisol)	14	No.s		
22	Supply & installation of 9U Rack with power supply arrangement, ventilation fan, mounting racks etc. Complete with all accessories.	1	No.s		
23	Supply & Installation of 24 Port Switch. (Make: D-Link, DIGISOL)	1	No.s		
<b>GST on work contract will be extra as applicable.</b>			<b>Grand Total ( in Rs)</b>		