

CONSTRUCTION OF BIOTECHNOLOGY AND CENTRE FOR SUSTAINABILITY BUILDING (GROUND + 6 FLOORS) AT IIT MADRAS

SCHEDULE - B - TENDER NO:45R/2012-13/CIVIL - FINANCIAL BID - VOLUME II - (Part 2) - ELECTRICAL WORKS - BILL OF QUANTITY

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
A	LT PANELS				
	<p>Supply, Installation, Testing and Commissioning of Indoor type LT Switchboards, Floor mounting type, Bottom/Top entry. Refer enclosed SLD Refer standard : IS 13947, 8623(part-1) Enclosure: Compartmentalized Single front CRCA, Doors:2mm Body:2mm Gland:3mm covers and partitions:1.6mm, IP class:IP52 for Indoor/IP55 with weather proof enclosure for outdoor, Bus bars: Electrolytic grade conductivity as per standard IS 5082, Bubs bar Material: As per SLD, Bus bar suppotrs: DMC/FRP/SMC, Bus bar joints: Shrouded/Tinned , Breakers: Microprocessor based above 250A/Thermal Magnetic up to 250A, Protection releases: As per SLD (Adjustable over current & short circuit unless otherwise specified), Ics=Icu for all breakers, Utilization category: All MCCB/ACB's shall be Cat: A except ACB's for Ltg & raw power input distribution panel shall be with Cat: B, Louvers:Busbar chamber shall have louvers with fine mesh inside . Shade: Epoxy powder coated RAL 7032 , Design: Modular type, Cable entry: As per site condition, SPD should have N/O contact for remote indication, Bus bar insulation: Aluminium bus bars with color coding at the ends/Copper shall be bare with color coding at the ends/For Humidified areas the copper bus bars shall be coated with tin.</p>				

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	<p>Note:1) All the breakers shall have potential free aux NO/NC contacts for ON,OFF & TRIP Indications and BMS monitoring 2) All the breakers shall have spreaders/phase separators/RHOM/Pad lock/Door lock/trip free 3)Breakers shall have provision to add shunt trip 4)All the AHU feeders shall be provided with shunt trip 5) Insulated shrouding shall be provided for live parts 6) FRLS PVC copper wires shall be used for control wiring 7) CT's shall be provided with shorting terminals 8) The dual source PDU's for Server/Hub room shall be of different color 9) MFM shall be BMS Compatible with RS485 Port- MODBUS/open protocol</p>				
1.01	<p><u>MAIN LT PANEL 1</u> A) Incomer : 1.EB INCOMER a) 1600 A, 4P, 50kA, motorised EDO ACB equipped with integral Current Transformers and self powered Microprocessor based Protection Relay having variable settings for Overcurrent, Short Circuit and Earth Fault with necessary time delay settings and measurement & indication of various parameters, memory log and self diagnostic features interfaced through LCD display (continuously ON) window and suitable BMS connectivity. The breaker section should be equipped with 1 Set of ON & OFF Push Buttons, 1 Set of auxilliary contacts and 1 Set of LED based indication lamps for ON, OFF & TRIP indications.</p>	Set	1		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	<p>1.DG INCOMER : a) 1250 A, 4P, 50kA, motorised EDO ACB equipped with integral Current Transformers and self powered Microprocessor based Protection Relay having variable settings for Overcurrent, Short Circuit and Earth Fault with necessary time delay settings and measurement & indication of various parameters, memory log and self diagnostic features interfaced through LCD display (continuously ON) window and suitable BMS connectivity. The breaker section should be equipped with 1 Set of ON & OFF Push Buttons, 1 Set of auxilliary contacts and 1 Set of LED based indication lamps for ON, OFF & TRIP indications. B) Busbar: 1600 A, TPN Aluminium Busbar Chamber for the entire length of the Panel as per specification</p>				
	<p>D) Outgoings : 1250 Amps 4P Variable Type ACB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 800 Amps 4P Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 630 Amps 4P Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 3 NOS. 100 Amps 4P Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 50KA (10/350micro second per pole) SPD class B for three phase - 1 no for each bus section</p>				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.02	<p>CHILLER PANEL - OUTDOOR TYPE :</p> <p>A) Incomer : 2No 630AMPS, 4Pole, Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection, Earth fault and Neutral current protection, Mechanical interlock (2 LOCK & 1 KEY) for the incomers.</p> <p>B)Indication & Metering: 2 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications. 1 Sets of 3 phase, 4 wire, 630/5A, Digital flush type Class-I accuracy multifunction meter with RS485 modbus connectivity. 2 Nos. 630/5A, Class-I, 5VA burden moulded CT's.</p> <p>C)Busbar: 630 A, TPN Aluminium Busbar Chamber for the entire length of the Panel as per specification</p> <p>D) Bus coupler : 1 Nos. 630 A, 4P, 50kA, MCCB without any relays or protection. This is to be used only for breaking and making the section. 1 Set of auxilliary contacts and 1 Set of LED based indication lamps for ON, OFF & TRIP indications and suitable extension of breaker terminals for connection of aluminum busbars.</p>	Set	1		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	E) Outgoings : 200 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 6 NOS. 100 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 63 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 40 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 6 NOS. 25 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 7 NOS. 16 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 3 NOS. 40KA (8/20 micro second per pole)SPD class C for three phase - 1 no for each bus section with N/O contact				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.03	<p><u>UTILITY PANEL</u></p> <p>A) Incomer : 2No 100AMPS, 4Pole, Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection, Earth fault and Neutral current protection, Mechanical interlock (CASTLE LOCK) (2 LOCK & 1 KEY) for the incomers.</p> <p>B) Indication & Metering: 2 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications. 1 Sets of 3 phase, 4 wire, 100/5A, Digital flush type Class-I accuracy multifunction meter with RS485 modbus connectivity. 2 Nos. 100/5A, Class-I, 5VA burden moulded CT's.</p> <p>C) Busbar: 100 A, TPN Aluminium Busbar Chamber for the entire length of the Panel as per specification</p>	Set	1		
	<p>D) Outgoings :</p> <p>40 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 3 NOS.</p> <p>32 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 2 NOS.</p> <p>25 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 3 NOS.</p> <p>40KA (8/20 micro second per pole) SPD class C for three phase with N/O contact</p>				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.04	<p><u>LIFT PANEL 1 (TYPICAL FOR LIFT PANEL 2) - OUTDOOR TYPE</u></p> <p>A) Incomer : 1 No 40AMPS, TPN, Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection, Earth fault and Neutral current protection,</p> <p>B) Indication & Metering: 1 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications. 1 Sets of 3 phase, 4 wire, 40/5A, Digital flush type Class-I accuracy multifunction meter with RS485 modbus connectivity. 1 Nos. 40/5A, Class-I, 5VA burden moulded CT's.</p> <p>C) Busbar: 40 A, TPN Aluminium Busbar Chamber for the entire length of the Panel as per specification</p> <p>D) Outgoings : 40 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 16 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 16A SP MCB 'C' CURVE - 4 NOS 40KA (8/20 micro second per pole) SPD class C for three phase with N/O contact</p>	Set	2		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.05	<p>APFC PANEL - 1 (TYPICAL FOR APFC PANEL 2) SITC of FLOOR MOUNTED CUBICLE TYPE APFC CAPACITOR PANEL BOARD. The Board shall be incorporated with the following:- A) Incomer : 1No, 800A, TPN, Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection B) Indication & Metering: 1 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications with power factor meter. C) Busbar: 800A, TPN Aluminium Busbar Chamber for the entire length of the Panel as per specification D) Outgoings : 16 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 16 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 Nos. 40 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 16 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 3 Nos. 63 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 16 kA Short Circuit Rating with Thermal O/L and</p>	Set	2		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	<p>100 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 16 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 2 Nos.</p> <p>200 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 16 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 Nos.</p> <p>5 KVAR Capacitor Bank - 1 Nos, 15 KVAR Capacitor Bank - 3 Nos, 25 KVAR Capacitor Bank - 5 Nos, 50 KVAR Capacitor Bank - 2 Nos, 100 KVAR Capacitor Bank - 1 Nos,</p> <p>E) Control Panel :</p> <p>1No 12 stage automatic power factor correction relay with ON/OFF switch, auto/manual switch, 1 lot of wiring, NO,NCs as required etc.complete panel with wiring.</p> <p>All capacitors shall be of MPP type only.</p> <p>OLRs, SCRs, 220Volts coil with suitable capacitor rated contactor only to be used.</p> <p>Relay and aux contacts for sensing EB power availability to be provided to trip in case of EB failure and make when resumes.</p> <p>50KA (8/20 micro second per pole) SPD class B+C for three phase with N/O contact</p>				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.06	<p><u>GF CHANGE OVER PANEL</u></p> <p>A) Incomer : 2 No 250AMPS, 4P, Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection, Earth fault and Neutral current protection, Mechanical interlock (CASTLE LOCK) (2 LOCK & 1 KEY) for the incomers.</p> <p>B) Indication & Metering: 2 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications. 1 Sets of 3 phase, 4 wire, 250/5A, Digital flush type Class-I accuracy multifunction meter with RS485 modbus connectivity. 2 Nos. 250/5A, Class-I, 5VA burden moulded CT's.</p> <p>C) Busbar: 250 A, TPN Aluminium Busbar Chamber for the entire length of the Panel as per specification</p>	Set	1		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	<p>D) Outgoings : 160 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 80 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 63 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 2 NOS. 40 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 3 NOS. 32 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 3 NOS. 25 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 40KA (8/20 micro second per pole) SPD class C for three phases with N/O contact</p>				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.07	<p><u>1F CHANGE OVER PANEL</u></p> <p>A) Incomer : 2No 2No 630AMPS, 4P, Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection, Earth fault and Neutral current protection, Mechanical interlock (CASTLE LOCK) (2 LOCK & 1 KEY) for the incomers.</p> <p>B) Indication & Metering: 2 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications. 1 Sets of 3 phase, 4 wire, 630/5A, Digital flush type Class-I accuracy multifunction meter with RS485 modbus connectivity. 2 Nos. 630/5A, Class-I, 5VA burden moulded CT's.</p> <p>C) Busbar: 630 A, TPN Aluminium Busbar Chamber for the entire length of the Panel as per specification</p>	Set	1		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	D) Outgoings : 400 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 80 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 100 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 40 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 2 NOS. 32 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 4 NOS. 25 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 40KA (8/20 micro second per pole) SPD class C for three				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.08	<p><u>2F CHANGE OVER PANEL</u></p> <p>A) Incomer : 2No 630AMPS, 4P, Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection, Earth fault and Neutral current protection, Mechanical interlock (CASTLE LOCK) (2 LOCK & 1 KEY) for the incomers.</p> <p>B) Indication & Metering: 2 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications. 1 Sets of 3 phase, 4 wire, 630/5A, Digital flush type Class-I accuracy multifunction meter with RS485 modbus connectivity. 2 Nos. 630/5A, Class-I, 5VA burden moulded CT's.</p> <p>C) Busbar: 630 A, TPN Aluminium Busbar Chamber for the entire length of the Panel as per specification</p>	Set	1		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	D) Outgoings : 400 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 80 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 100 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 40 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 3 NOS. 32 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 2 NOS. 25 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS. 40KA (8/20 micro second per pole) SPD class C for three				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.09	<p><u>3F CHANGE OVER PANEL</u></p> <p>A) Incomer : 2No 2No 630AMPS, 4P, Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection, Earth fault and Neutral current protection, Mechanical interlock (CASTLE LOCK) (2 LOCK & 1 KEY) for the incomers.</p> <p>B) Indication & Metering: 2 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications. 1 Sets of 3 phase, 4 wire, 630/5A, Digital flush type Class-I accuracy multifunction meter with RS485 modbus connectivity. 2 Nos. 630/5A, Class-I, 5VA burden moulded CT's.</p> <p>C) Busbar: 630 A, TPN Aluminium Busbar Chamber for the entire length of the Panel as per specification</p>	Set	1		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	<p>D) Outgoings :</p> <p>630 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS.</p> <p>80 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS.</p> <p>100 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS.</p> <p>40 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 2 NOS.</p> <p>32 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 2 NOS.</p> <p>25 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS.</p> <p>40KA (8/20 micro second per pole) SPD class C for three phase with N/O contact</p>				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.10	<p><u>4F LIGHTING & POWER PANEL (TYPICAL FOR 5F LIGHTING & POWER PANEL)</u></p> <p>A) Incomer : 2No 2No 63AMPS, 4P, Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection, Earth fault and Neutral current protection, Mechanical interlock (CASTLE LOCK) (2 LOCK & 1 KEY) for the incomers.</p> <p>B) Indication & Metering: 2 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications. 1 Sets of 3 phase, 4 wire, 63/5A, Digital flush type Class-I accuracy multifunction meter with RS485 modbus connectivity. 2 Nos. 63/5A, Class-I, 5VA burden moulded CT's.</p> <p>C) Busbar: 63 A, TPN Aluminium Busbar Chamber for the entire length of the Panel as per specification</p>	Set	2		
	<p>D) Outgoings :</p> <p>40 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 2 NOS.</p> <p>32 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 4 NOS.</p> <p>25 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS.</p> <p>40KA (8/20 micro second per pole) SPD class C for three phase with N/O contact</p>				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.11	<p><u>6F LIGHTING & POWER PANEL</u></p> <p>A) Incomer : 2No 2No 63AMPS, 4P, Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection, Earth fault and Neutral current protection, Mechanical interlock (CASTLE LOCK) (2 LOCK & 1 KEY) for the incomers.</p> <p>B) Indication & Metering: 2 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications. 1 Sets of 3 phase, 4 wire, 63/5A, Digital flush type Class-I accuracy multifunction meter with RS485 modbus connectivity. 2 Nos. 63/5A, Class-I, 5VA burden moulded CT's.</p> <p>C) Busbar: 63 A, TPN Aluminium Busbar Chamber for the entire length of the Panel as per specification</p>	Set	1		
	<p>D) Outgoings :</p> <p>40 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection -3 NOS.</p> <p>32 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 2 NOS.</p> <p>25 Amps TPN Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 1 NOS.</p> <p>40KA (8/20 micro second per pole) SPD class C for three phase with NO contact</p>				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.12	<p><u>1F,2F & 3F MAIN UPS OVP PANEL</u> A) Incomer : 2 NOS 2#200AMPS, TP+2N Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection, B) Indication & Metering: 2 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications. C) Busbar: 200 A, TP+2N CUPPER Busbar Chamber for the entire length of the Panel as per specification D) Bus coupler : 1 Set of 200 A, TP+2N Bus coupler as per specification and refer SLD E) Outgoings : 63 Amps TP+2N Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 8NOS. 50KA (8/20 micro second per pole) SPD class B+ C for three phase with N/O contact</p>	Set	1		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.13	<p><u>4F,5F & 6F MAIN UPS OVP PANEL</u></p> <p>A) Incomer : 2 NOS 2 NOS , 2#160AMPS, TP+2N Variable Type MCCB with Manual Closing Mechanism of 36 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection ,</p> <p>B) Indication & Metering: 2 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications.</p> <p>C) Busbar: 160 A, TP+2N CUPPER Busbar Chamber for the entire length of the Panel as per specification</p> <p>D) Bus coupler : 1 Set of 160 A, TP+2N Bus coupler as per specification and refer SLD,</p>	Set	1		
	<p>E) Outgoings :</p> <p>40 Amps TP+2N Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 6 NOS.,</p> <p>32 Amps TP+2N Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 3 NOS.,</p> <p>25 Amps TP+2N Variable Type MCCB with Manual Closing Mechanism of 25 kA Short Circuit Rating with Thermal O/L and Magnetic S/C Protection - 2NOS.</p> <p>50KA (8/20 micro second per pole) SPD class B+ C for three phase with N/O contact</p>				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.14	Manually operated Microprocessor based 800A TPN MDO 50KA ACB in an enclosure IP55 weather proof (floor mount outdoor type) with overload,short circuit,earthfault releases,Shunt trip coil,2 NO & NC contacts,Micro switch for trip indication, safety shutter and 1 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications.also the panel should have the following accessories.Space heater, Thermostat,Toggle switch,Door switch and inside one 11W CFL lamp. (DG KIOSK)	Set	2		
1.15	Manually operated Microprocessor based 1250A TPN MDO 50KA ACB in an enclosure with overload,short circuit,earthfault releases,Shunt trip coil,2 NO & NC contacts,Micro switch for trip indication, 1 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications. END FEED UNIT	Set	2		
1.16	Supply, erection, testing and commissioning of 200 A 4P MCCB (NEUTRAL ISOLATION REQUIRED) with 1 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications and with enclosure concealed in wall / flush as required at site including providing necessary earthing provisions. (UPS ISOLATION)	Set	4		
1.17	Supply, erection, testing and commissioning of 200 A TPN MCCB with 1 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications and with WEATHER PROOF ENCLOSURE concealed in wall / flush as required at site including providing necessary earthing provisions. (FOR CHILLER)	Set	3		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
1.18	Supply, erection, testing and commissioning of 160 A 4P MCCB (NEUTRAL ISOLATION REQUIRED) with 1 Sets of R,Y,B phase indicating lights (LED-TYPE) controlled with control MCB's and breaker ON / OFF / TRIP indications and with enclosure concealed in wall / flush as required at site including providing necessary earthing provisions.(UPS ISOLATION)	Set	2		
1.19	STATIC TRANSFER SWITCH (STS)				
a	Supply, installation, testing & commissioning of 63A 4P Static transfer switch with suitable metal enclosure with necessary indication lamps & control wiring all accessories as per the tender specification	Set	3		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
B	LT CABLES				
	Supply, Laying, Testing and Commissioning of stranded XLPE/PVC insulated, Armoured/Unarmoured/Flexible, Aluminium / Copper conductor, laid over Galvanized or MS supports / in excavated Trench / in duct/fixing on walls including Galvanized clamping support to the cable as per approved installation dwg. Referer Indian standard Specification: IS 1554, 7098, 5831, 3975, 694 , Installation: IS1255 . Multicore/Single core Armoured/Un-armoured cable, Insulation: XLPE above 25Sqmm and Class A PVC below 25Sqmm Inner sheath: Extruded PVC only for Multicore, Outer sheath: Extruded Type ST2 PVC , Voltage grade:1100Volts, Armoure: Galvanized Steel strip/Wire for multicore, Non Magnetic Aluminum Wire/Strip for Single core				
	Aluminium Armoured Power Cables				
2.01	3.5C x 150 Sq.mm XLPE AR AI	Mtrs	1340		
2.02	3.5C x 50 Sq.mm XLPE AR AI	Mtrs	40		
2.03	4C x 300 Sq.mm XLPE AR AI	Mtrs	1050		
2.04	4C x 150 Sq.mm XLPE AR AI	Mtrs	120		
2.05	4C x 120 Sq.mm XLPE AR AI	Mtrs	30		
2.06	4C x 70 Sq.mm XLPE AR AI	Mtrs	20		
2.07	4C x 35 Sq.mm XLPE AR AI	Mtrs	130		
2.08	4C x 25 Sq.mm XLPE AR AI	Mtrs	170		
2.09	4C x 16 Sq.mm PVC AR AI	Mtrs	380		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
2.10	4C x 10 Sq.mm PVC AR AI	Mtrs	690		
2.11	4C x 6 Sq.mm PVC AR AI	Mtrs	675		
2.12	4C x 4 Sq.mm PVC AR AI	Mtrs	45		
2.13	3C x 10 Sq.mm PVC AR AI	Mtrs	150		
2.14	3C 2.5 sqmm PVC AR AI (external lighting)	Mtrs	1500		
	Single Core Copper Flexible cables (Confirm to as per IS 694). Cost shall include metallic flexible conduits.				
2.16	1C X 95 Sq.mm YY	Mtrs	660		
2.17	1C X 70 Sq.mm YY	Mtrs	300		
2.18	1C X 35 Sq.mm YY	Mtrs	20		
2.19	1C X 25 Sq.mm YY	Mtrs	2100		
2.20	1C X 16 Sq.mm YY	Mtrs	260		
2.21	1C X 10 Sq.mm YY	Mtrs	55		
2.21	1C X 6 Sq.mm YY	Mtrs	530		
2.22	1C X 4 Sq.mm YY	Mtrs	160		
	Unarmoured Copper Earthing Cables Cost shall include metallic flexible conduits. Note: Outer sheath for earthing cable shall be green color, Note: innersheath is not required, Insulation: Class A PVC				
2.23	1C x 150Sq.mm (main earth cable in shaft from earth pit upto 1st floor)	Mtrs	60		
2.24	1C x 120Sq.mm (main earth cable in shaft from 1st floor to 5th floor)	Mtrs	40		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
2.25	1C x 95Sq.mm (100 KVA UPS Neutral earth)	Mtrs	350		
2.26	1C x 70Sq.mm (80 KVA UPS Neutral earth)	Mtrs	110		
2.27	1C x 25Sq.mm	Mtrs	60		
2.28	1C x 10q.mm (hub rm earth bus to main earth bus)	Mtrs	560		
	Control Cables : Refer :IS 1554, Conductor: Solid Copper, Insulation: Class A PVC , Inner sheath: Class A PVC, Outer sheath: FLAME RETARDANT PVC, Armour: GI wire, Voltage grade:1100Volts				
2.29	2C x 2.5Sq.mm (CONTACTOR WIRING)	Mtrs	750		
2.30	2C x 1.5Sq.mm (CONTACTOR WIRING)	Mtrs	2000		
C	LT CABLE TERMINATION				
	Supply, Installation, Testing and Commissioning of Compression type cable gland, aluminium sockets for aluminium cables / copper sockets for copper cables, insulation tape, anti corrosive paste, brass clamps for gland earthing with 14 SWG copper wire to connect to nearest earth flat. Refer Standard: IS 12943 for single compression, BS 6121 for Double compression(NA) , Gland type : Brass with nickel plated, Compression : Single for Indoor, Double for Outdoor (NA), Sealing Ring : Natural rubber for indoor, Neoprene for Outdoor (NA)				
	Multi core Aluminium cable terminations				
3.01	3.5C x 150 Sq.mm XLPE AR AI	Nos.	32		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
3.02	3.5C x 50 Sq.mm XLPE AR AI	Nos.	12		
3.03	4C x 300 Sq.mm XLPE AR AI	Nos.	28		
3.04	4C x 150 Sq.mm XLPE AR AI	Nos.	36		
3.05	4C x 120 Sq.mm XLPE AR AI	Nos.	6		
3.06	4C x 70 Sq.mm XLPE AR AI	Nos.	8		
3.07	4C x 35 Sq.mm XLPE AR AI	Nos.	52		
3.08	4C x 25 Sq.mm XLPE AR AI	Nos.	54		
3.09	4C x 16 Sq.mm PVC AR AI	Nos.	60		
3.10	4C x 10 Sq.mm PVC AR AI	Nos.	74		
3.11	4C x 6 Sq.mm PVC AR AI	Nos.	20		
3.12	4C x 4 Sq.mm PVC AR AI	Nos.	6		
3.13	3C x 10 Sq.mm PVC AR AI	Nos.	28		
3.14	3C x 2.5 Sq.mm PVC AR AI	Nos.	20		
	Single core Copper Flexible cable terminations				
3.15	1C X 95 Sq.mm YY	Nos.	92		
3.16	1C X 70 Sq.mm YY	Nos.	56		
3.17	1C X 35 Sq.mm YY	Nos.	10		
3.18	1C X 25 Sq.mm YY	Nos.	120		
3.19	1C X 16 Sq.mm YY	Nos.	20		
3.20	1C X 10 Sq.mm YY	Nos.	30		
3.21	1C X 6 Sq.mm YY	Nos.	240		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
3.22	1C X 4 Sq.mm YY	Nos.	70		
	Single Core Copper Flexible cable terminations (Earthing)				
3.23	1C x 150Sq.mm	Nos.	8		
3.24	1C x 120Sq.mm	Nos.	12		
3.25	1C x 95Sq.mm (100 KVA UPS Neutral earth)	Nos.	36		
3.26	1C x 70Sq.mm (80 KVA UPS Neutral earth)	Nos.	16		
3.27	1C x 25Sq.mm	Nos.	4		
3.28	1C x 10q.mm	Nos.	28		
	Control cable terminations				
3.29	2C x 2.5Sq.mm (CONTACTOR WIRING)	Nos.	50		
3.30	2C x 1.5Sq.mm (CONTACTOR WIRING)	Nos.	175		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
D	DISTRIBUTION BOARDS				
	Supply, Installation, Testing and Commissioning of MCB Distribution board as per approved installation dwgs. Referer Standard: IS 8623, Enclosure:1.2mm CRCA Sheet Steel, Powder Coated, DB type: Horizontal, 7 Segment for UPS DB's, Lighting, Emergency Lighting & Raw power Door : Double Door, Protection : IP 42, Cable Entry : Top & Bottom, For UPS distribution ELCB's shall be harmonic resistant (SI Series), Bus bar : Shall be tinned Copper and 200% rating for UPS DB Neutral Link, MCB's : 10kA 'C' Curve for Lighting & Raw power, 10kA 'D' Curve for UPS Distribution				
	<p>Note:</p> <ol style="list-style-type: none"> 1) Separate Earth bus/Neutral bus for each phase 2) Each Circuit shall have yellow ferrules with circuit number. 3) Accessories required for installation of DB's on Wall/Column/Gyp Board shall be considered 4) DB's shall be covered with powder coated (paint should match with DB Color) wire ways all around and up to ceiling to receive incoming circuits, how ever raceway shall be considered as a separate items & same shall be paid under raceway item 5) Laminated A3 OR A4 size SLD & Control drawing copy shall be pasted inside DB door 6) Safe shroud for Neutral link shall be provided 				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
4.01	<p>LIGHTING DB - 12 Way : Supply, erection, testing and commissioning of MCB DB double door type, IP 42 powder coated 12 Way DB comprising of "C" curve MCB's for LIGHTING DB. Incomer - 1 NO - 32A TPN MCB ISOLATOR, Phase control 3 NOS - 32A 30mA DP RCCB, Outgoings - 36 NOS - 10A SP MCB , Including all interconnections & accessories etc as reqd</p>	Set	11		
4.02	<p>LIGHTING DB - 8 Way : Supply, erection, testing and commissioning of MCB DB double door type, IP 42 powder coated 8 Way DB comprising of "C" curve MCB's for LIGHTING DB. Incommer - 1 NO - 32A TPN MCB ISOLATOR, Phase control - 3 NOS - 32A 30mA DP RCCB , Outgoings - 24 NOS - 10A SP MCB , Including all interconnections & accessories etc as reqd</p>	Set	3		
4.03	<p>LIGHTING DB - 4 Way (FOR RXTERNAL LIGHTS): Supply, erection, testing and commissioning of MCB DB double door type, IP 42 powder coated 8 Way DB comprising of "C" curve MCB's for LIGHTING DB. Incomer - 1 NO - 32A TPN MCB ISOLATOR , Phase control - 3 NOS - 32A 30mA DP RCCB , Outgoings - 12 NOS - 10A SP MCB , Including all interconnections & accessories etc as reqd</p>	Set	1		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
4.04	<p>SPN DB - 12 Way : Supply, erection, testing and commissioning of single phase, DB 12 way SPN MCB DB double door type, IP 42 powder coated comprising of "C" curve MCB's for ELDB. Incomer: 1No - 32A DP MCB, Outgoings - 12Nos - 10A SP MCB, Including all interconnections & accessories etc as reqd</p>	sets	7		
4.05	<p>POWER DB & DG DB - 12 Way : Supply, erection, testing and commissioning of MCB DB double door type, IP 42 powder coated 12 Way MCB DB comprising of "C" curve MCB's for POWER DB. Incomer: 1No - 40A TPN MCB Phase Control: 3Nos - 40A, 30mA DP RCCB Outgoings 24Nos - 16A SP MCB , 12Nos - 20A SP MCB Including all interconnections & accessories etc as reqd</p>	sets	40		
4.06	<p>POWER DB & DG DB - 6 Way Supply, erection, testing and commissioning of MCB DB double door type, IP 42 powder coated 8 Way MCB DB comprising of "C" curve MCB's for POWER DB. Incomer:1No - 40A TPN MCB Phase Control: 3Nos - 40A, 30mA DP RCCB, Outgoings 10Nos - 16A SP MCB, 8Nos - 20A SP MCB , Including all interconnections & accessories etc as reqd</p>	sets	40		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
4.07	<p>UPS DB - 12 Way Supply, erection, testing and commissioning of MCB DB double door type, IP 42 powder coated 12 Way MCB DB comprising of "D" curve MCB's for UPS DB. Incomer: 1No - 32/40/63/80A TP MCB +2NL , Phase Control: 3Nos - 32/40/63/80A, 300mA DP RCBO , Outgoings - 24Nos - 16A SP MCB, 12Nos - 20A SP MCB, Including all interconnections & accessories etc as reqd</p>	sets	12		
4.08	<p>UPS DB - 6 Way Supply, erection, testing and commissioning of MCB DB double door type, IP 42 powder coated 6 Way MCB DB comprising of "D" curve MCB's for UPS DB. Incomer: 1No - 32/40/63A TP MCB +2NL, Phase Control: 3Nos - 32/40/63A, 300mA DP RCBO , Outgoings 18Nos - 16/20A SP MCB Including all interconnections & accessories etc as reqd</p>	sets	3		
4.09	<p>UPS DB - 4 Way Supply, erection, testing and commissioning of MCB DB double door type, IP 42 powder coated 6 Way MCB DB comprising of "D" curve MCB's for UPS DB. Incomer: 1No - 32A/40/63 TP MCB +2NL , Phase Control: 3Nos - 32/40/63A, 300mA DP RCBO Outgoings 12Nos - 16/20A SP MCB Including all interconnections & accessories etc as reqd</p>	sets	28		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
4.10	VTPN DB 8 WAY Supply, erection, testing and commissioning of three phase, DB 12 way VTPN MCB DB double door type,IP 42 powder coated comprising of "C" curve MCB's for outgoing, Incomer: 1No - 32A TPN MCB, Outgoings, 6Nos - 16/20 TP MCB, 2Nos - 16/20 A SP MCB, Including all interconnections & accessories etc as reqd	sets	1		
4.11	VTPN DB 12 WAY Supply, erection, testing and commissioning of three phase, DB 12 way VTPN MCB DB double door type,IP 42 powder coated comprising of "C" curve MCB's for outgoing. Incomer: 1No - 40A TPN MCB, Outgoings - 9Nos - 16/20 TP MCB , 3Nos - 16/20 A SP MCB , Including all interconnections & accessories etc as reqd	sets	9		
E	WIRING AND CONDUITS				
5.00	Supply, Laying, Testing and Commissioning of copper wires, including termination on both ends with copper lugs in existing Wire ways/Conduits/Flexible Refer standard: IS 694 Voltage Grade:660/1100V, Conductor: Multistrand Copper, Insulation: PVC Outsheath: FRLS PVC only for multicore cable , Note: 1) There shall not be any joints except at the equipment end 2) Individual UPS and Raw power points shall have yellow ferrules for circuit identification .				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
5.01	Supply, Laying, Testing and Commissioning of 3C 4 sqmm PVC insulated white sheathed FRLS multistrand copper wire as required at site for SERVER & HUB RACKS	Mtrs	425		
5.02	Supply & Laying of 3C 2.5 sqmm PVC insulated FRLS flexible unarmoured multistrand copper cable in already laid cable trays / raceways in the ceiling/floor with all accessories as reqd. (workstation UPS and Raw Switch & Sockets) UPS (White Color Cable) /RAW (Black Color Cable) POWER CIRCUITS (WS WIRING)	Mtrs	4600		
5.03	Supply & Laying of 2R 4 Sq.mm+1R 2.5 sqmm PVC insulated FRLS flexible unarmoured multistrand copper cable in already laided cable trunking in the ceiling/floor/Wall with all accessories as reqd. (for LAB,equipment/Faculty/autoclave rooms etc from UPS/DG/RAW power DB's)	Mtrs	66400		
5.04	Supply & Laying of 2R 4 Sq.mm+1R 2.5 sqmm PVC insulated FRLS flexible unarmoured multistrand copper cable in already laided MS conduits in the ceiling/floor with all accessories as reqd. (for FCU units) (conduits covered seperately for this item)	Mtrs	3350		
5.05	SITC of 2 NODE Data Back box for Data & Voice points	NOS	300		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	POINT WIRING				
	NORMAL LIGHTING WIRING				
	Supply, Erection, Testing and commissioning of 3R 2.5sqmm PVC insulated FRLS copper wire in already laided existing PVC conduit along with Modular 6A one way switch with molded front plate with MS Back Box and other associated accessories as required as per the site conditions. (Rate to be inclusive for circuit mains of 3runs 2.5 sqmm PVC insulated FRLS copper wire with Modular 6A one way switch with molded front plate with MS Back Box and other associated accessories) (for clean room application switches,back box are should be clean room type)				
5.06	a) PRIMARY POINT (refer lighting lyt) (from DB to Switch)	NOS	354		
5.07	b) SECONDARY POINT (refer lighting lyt) (switch to light\sensor)	NOS	1128		
	EMERGENCY LIGHTING WIRING				
	Supply, Erection, Testing and commissioning of insulated 3runs 2.5 sqmm PVC insulated FRLS copper wire in already laided existing PVC conduit along with other associated accessories as required as per the site conditions. (Rate to be inclusive for circuit mains of 3runs 2.5 sqmm PVC insulated FRLS copper wire with Modular 6A one way switch with molded front plate with MS Back Box and other associated accessories) (for clean room application switches,back box are should be clean room type)				
5.08	a) PRIMARY POINT (refer lighting lyt)	NOS	55		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
5.09	b) SECONDARY POINT (refer lighting lvt)	NOS	331		
	UTILITY POINTS WIRING				
	Supply & laying of 2runs 4sqmm with 1run 2.5sqmm.for earth FRLS Copper Multistrand wire in already laided existing PVC conduit with necessary accessories as required				
5.10	Primary Circuit Main from PDB to 6/16A Conventional / Utility purpose socket outlet	Ckts	80		
5.11	Secondary points from First socket to Additional sockets(MAX ONE SOCKET)	Pts	79		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	CONDUITS				
	<p>Supply, Laying, Testing & commissioning of PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required. Gauge:16 SWG up to 32mm Dia & 14G SWG above 32mm Dia , Material: PVC, Accessories: PVC with Threaded type, NOTE: 1) PVC Conduits as per BIS IS 2509:1973 , concealed at ceiling / laying in above false ceiling in multiples shall be supported by Slotted GI 'C' channel at distance not more than 0.5mtrs intervals. OR else with spacers & saddles at an intervals of 0.5mtrs 2) Accessories shall includes Bends, Collars, junction boxes, Spacers, saddles, screws, Flexibles (all are PVC). 3) Conduits shall be heavy duty & ISI marked 4) The number of wires drawn in each conduit shall be as per IS code. 5) No different phases shall be drawn in same conduit 6) conduit joints shall be done with threading proper accesories only</p>				
5.12	32mm Dia MS Conduit	Mtrs	1500		
5.13	25mm Dia MS Conduit	Mtrs	1000		
5.14	25mm dia PVC Flexible hose for Workstation looping	Mtrs	400		
5.15	25mm dia 1.6mm thick GI flexible conduit for light hose	Mtrs	1786		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
F	SWITCH & SOCKETS				
	Note : The Trading Desk Sockets are provided by Trading Desk Contractor however the termination work shall be in Electrical Contractor scope				
6.00	Supply, Installation, Testing and Commissioning of the following Modular/Industrial Switch, sockets with modular front plate, with suitable MS back box accessories as per the site conditions. Refer Standard: BS 1363, IS 3864, IS 1293, Terminal : Phosphor bronze, Enclosure for Current carrying part; Thermoplastic/ABS plastic complying to environment recycling, Frontplate: Thermoplastic /Polycarbonate complying to environmental recycling, IP Class for Modular sockets: IP20, Note: Safety shutters to prevent accidental contact with live parts shall be provided. No indicator shall be provided for switches				
6.01	Supply, Installation, testing and commissioning of 3 No 6/10/13A UNIVERSAL sockets suitable for flat / round pins controlled by 1 no 16A switch in a single modular plate with suitable MS back box and fixing the same for a single location with a dummy if necessary and other associated accessories in the work station as required as per the site conditions . (UPS power) Color of the switches, sockets and front plates would be as per approval.	Nos	100		
6.02	5/15A Round 5 pin Unswitched Socket controlled by 16A switch for UPS / DG /RAW applications along with MS Boxes (UTILITY,LAB & OTHER APPLICATIONS)	Nos	1532		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
6.03	5/15A Round 5 pin Unswitched Socket controlled by 16A switch for UPS / DG /RAW applications along with MS Boxes FOR CLEAN ROOM APPLICATIONS (SOCKET SHOULD BE CLEAN ROOM TYPE)	Nos	294		
6.04	5/15A Round 5 pin Unswitched Socket controlled by 16A switch for Raw power applications along with MS Boxes FOR FCU's	Nos	82		
6.05	6A Round 5 pin Unswitched Socket controlled by 6A switch for Raw power applications along with MS Boxes	Nos	145		
6.06	6A Round 5 pin Unswitched Socket controlled by 6A switch for UPS power applications along with MS Boxes	Nos	199		
6.07	1 x 6A Buzzer push button for Physically challenged toilet	Nos	7		
6.08	Buzzer for Physically challenged toilet	Nos	7		
	Industrial Sockets				
	For HUB & SERVER RACKS , Terminal : Phosphor bronze, Enclosure: Polycarbonate , IP Class :IP44, Note: The enclosure color of socket shall be different for different Source				
6.09	20A 2P+E Interlocked plug and socket without MCB protection	Nos	18		
6.10	Supply, erection, testing and commissioning of 25A DP MCB TYPE ISOLATOR with enclosure concealed in wall / flush as required at site including providing necessary earthing provisions.(INVERTER)	Nos	14		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
6.11	Supply, erection, testing and commissioning of 63A TPN MCB with enclosure concealed in wall / flush as required at site including providing necessary earthing provisions.	Nos	1		
6.12	Supply, erection, testing and commissioning of 40A TPN MCB with enclosure concealed in wall / flush as required at site including providing necessary earthing provisions.	Nos	2		
6.13	Supply, erection, testing and commissioning of 20A TPN MCB with enclosure concealed in wall / flush as required at site including providing necessary earthing provisions.	Nos	1		
6.14	Supply, erection, testing and commissioning of 16A TPN MCB with enclosure concealed in wall / flush as required at site including providing necessary earthing provisions.	Nos	63		
6.15	Supply, erection, testing and commissioning of 32A DP MCB with metal clad plug and socket in metal enclosure in wall / flush as required at site including providing necessary earthing provisions.	Nos	62		
6.16	Supply, erection, testing and commissioning of 16A DP MCB with metal clad plug and socket in metal enclosure in wall / flush as required at site including providing necessary earthing provisions.	Nos	206		
6.17	Supply, erection, testing and commissioning of 63A TPN MCB with Weather proof enclosure concealed in wall / flush as required at site including providing necessary earthing provisions.(ANIMAL ROOM)	Nos	1		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
6.18	Supply, erection, testing and commissioning of 40A TPN RCBO type with Weather proof enclosure concealed in wall / flush as required at site including providing necessary earthing provisions.(PUMPS AT TERRACE)	Nos	4		
6.19	Supply, erection, testing and commissioning of 25A/32a TPN RCBO type with Weather proof enclosure concealed in wall / flush as required at site including providing necessary earthing provisions.(PUMPS AT TERRACE)	Nos	7		
6.20	Supply, erection, testing and commissioning of 16A TPN RCBO type with Weather proof enclosure concealed in wall / flush as required at site including providing necessary earthing provisions.(FANS AT TERRACE,DIRTY CORRIDOR)	Nos	5		
6.21	3pole contactors of 40/63A/80A/100A rating , the coil of which is energised by the DG supply	Nos	33		
6.22	Supply, erection, testing and commissioning of 63A ISOLATOR with metal enclosure in wall / flush as required at site including providing necessary earthing provisions. - Busbar trunking Isolator	Nos	3		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
G	EARTHING SYSTEM				
7.00	<p>ELECTRODES Supply, Installation, Testing and Commissioning of the Earth pits as per standard, Refer Standard: IS 3043. IE rules 1956, Electrode: Cast iron for Corrosive Soil. Galvanized Iron/Non-galvanized Steel for Non Corrosive soil, Plate Electrode: Copper, Application: 1) CI or GI pipe electrode for Equipment Earthing 2) Copper/Gi/CI plate or tripolar for System Earthing or UPS neutral and clean earthing Note: 1) Installation of pipe and plate electrode shall be carried out as per details given in IS 3043 2) Earthing connections shall be carried out as per details given in IS 3043 3) Pipe electrodes shall have 12mm drilled holes not less than 75mm from each other up to 2mtr of length from bottom to top. 4)The chamber construction shall be made as per details given in IS 3043(masonry enclosure not less than 300 x 300 x 300mm with CI/MS frame cover. 5) Funnel with wire mesh shall be provided on top for individual electrode for maintenance. NOTE : ALL COPPER FLAT SHOULD BE BRACED AND ALL GI FLATS SHOULD BE WELDED .</p>				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
7.01	Supplying, installing and connecting a 2.5 Mtr. long 40 mm. dia G.I. Pipe with holes drilled diametrically opposite to each other once every 150 mm. in an earth pit of 380 x 380 x 3500 mm. filled with salt and charcoal mixed with sand in alternate layers 150 mm. each upto a height of 3000 mm. from bottom. The pipe shall have provision for watering through a funnel. It shall also have provision for connecting 50 x 6 mm GI Flat on two sides. A masonry structure shall be constructed to a depth of 450 mm. and a heavy duty CI Cover shall be used to cover the pit. The cost of digging and back filling shall also be included. Sand, salt and charcoal are in the Contractor's scope. DG Body.. 4 Sets,LT PANELS.. 2 Sets,RISING MAIN .. 2 Sets,LIFT .. 2 Sets.	Nos	10		
7.02	Supplying, installing and connecting a Copper plate of size 600mm.x 600 mm.x 3 mm. at a depth of 3000 mm. in an earth pit of 700 x 700 x 3500 mm. filled with salt and charcoal mixed with sand in alternate layers 150 mm. each upto a height of 3000 mm. from bottom. Two copper flats of 25 x 6mm. shall be braced to this copper plate throughout the overlapping length with the copper plate and brought to the surface of the earthpit. This copper flat shall have provision for connecting wires of flats as the case may be. A suitable size of 40 mm. dia GI Pipe shall be provided upto the bottom of the earth pit. This GI Pipe shall have provision for watering through a funnel. A masonry structure shall be constructed to a depth of 450mm. and a heavy duty CI Cover shall be used to cover the pit. The cost of digging and back filling shall also be included. Sand, salt and charcoal are in the Contractor's scope. UPS / SERVER/HUB .. 3 Sets	Nos	3		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
7.03	EARTHSTRIPS				
	Supply, Installation on trays/in ground/on wall/in trench etc, Testing and Commissioning of the Earth strips as per installation standard IS 3043, Strips above ground: GI Strips below ground: MS Accessories: Welding for GI/MS, Brazing for Copper, GI nut bolts for connection at eqpt end/PVC sleeves for copper strips/Epoxy Insulated mounts shall be considered				
7.04	50 x 06 mm - GI flat (DG body,panels, Rising main)	Mtrs	250		
7.05	25 x 06 mm - GI flat (Lift)	Mtrs	400		
7.06	25 x 03 mm - GI flat (for WS LEG Earthing/floor panel earthing/equipment earthing/floor grid)	Mtrs	5800		
7.07	50 x 06 mm - Cu flat (DG neutral & RM)	Mtrs	570		
7.08	25 x 03 mm - Cu flat for SERVER\HUB Earthing/GF UPS room	Mtrs	220		
7.09	8 SWG CU (for DB body earthing)	Mtrs	3650		
7.10	1R x 6 Sqmm Copper Wire in existing Conduit/raceways. (UPS receptacle third pin or Clean Earthing/Rack earthing)	Mtrs	2455		
7.11	1R x 1.5 Sqmm Copper Wire in for workstation leg earthing.	Mtrs	800		
7.12	Supply, installation, testing and commissioning of dedicated earth boxes of complete with 14 SWG sheet steel enclosure of suitable size with 500mm long 50x6mm Cu. Strip on SMC insulator for incoming & outgoing cables for earthing.	Nos.	9		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
7.13	Supply, installation, testing and commissioning of dedicated earth boxes of complete with 14 SWG sheet steel enclosure of suitable size with 300mm long 25x6mm Cu. Strip on SMC insulator for incoming & outgoing cables for earthing.	Nos.	7		
	LIGHTNING PROTECTION SYSTEM				
	LPS - BIOTECHNOLOGY BUILDING				
	Air Termination system(Horizontal)				
7.14	8 mm Aluminum Round Conductor as horizontal air terminal	Mtr	400		
7.15	Conductor Holder for 8 mm Al conductor (Roof parapet)	Nos	214		
7.16	Plastic Conductor Holder for 8 mm Al conductor (Concrete Roof) at Every 1 mtr	Nos	184		
7.17	Glue to fix the Plastic Conductor holder	Nos	8		
7.18	Cross connector (At every crossing of conductor)	Nos	18		
7.19	Expansion Piece (at every 20 metre Intervals)	Nos	12		
7.20	Connector for expansion piece (2 Nos / Expansion Piece)	Nos	24		
	Down Conductor system				
7.21	8 mm Al Conductor	Mtr	370		
7.22	Down Conductor Holder for Brick wall	Nos	370		
7.23	Test Joint (Saddle Clamp)	Nos	12		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	Earthing System				
7.24	Flat Conductor 30X3 mm G.I Strip	Mtr	140		
7.25	Conductor Holder for Flat at walls	Nos	24		
7.26	Connector for Flat Conductor	Nos	20		
7.27	Corrosion Proofing Band	Nos	1		
7.28	Copper Coated Earth Rod (20 mm Dia,3 m(1m X3) Length)	Nos	6		
7.29	Earth Conductivity Enhancing Mineral Compound (12.5 kg / Bucket)	Nos	6		
7.30	Impact Point	Nos	6		
7.31	Earth Inspection Pit	Nos	6		
7.32	Universal Clamp	Nos	6		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
H	CABLE TRAYS AND WIREWAYS				
8.00	Supply and Installation of the following sizes of Cable trays suspended from the ceiling or Along the wall or in trench or on floor, Refer standard: IS 1079 & 513,Material: Mild steel, Finish: Pre Galvanized for indoor & Hot dip galvanized for Outdoor , Thickness: 2.5mm Type: Ladder or Perforated/Solid, Rung Spacing:300mm, Rung width:35mm, Supports: Up to 300mm wide using Hi-tech Rod and above 300mm wide using MS angle supports with anticorrosive paint at an intervals of 500mm. Accessories: Couplers, Bends, Reducers, Tees & Cross junctions shall be considered.Ladder type tray shall be continuously earthed with two runs of 25x6mm GI. flats. Rate to be inclusive. The trays installed on floor shall be mounted on 'C' clamp, Note: The trays used inside the office area for power cablings shall be only perforated.				
	CABLE TRAYS				
8.01	150 mm x 50mm Ladder type	Mtrs	170		
8.02	300 mm x 50mm Ladder type	Mtrs	120		
8.03	450 mm x 50mm Ladder type	Mtrs	180		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
8.04	600 mm x 50mm ladder type	Mtrs	120		
8.05	1000 mm x 50mm ladder type	Mtrs	70		
8.06	300 mm x 50mm Perforated type cable tray along with top cover (SERVER, HUB ROOM SERVICE PROVIDER TRAY)	Mtrs	60		
8.07	200 mm x 100mm Perforated type cable tray along with top cover (FOR UPS ROOM - UPS/TRAF0/BATTERY/O/P PANEL CONNECTIONS)	Mtrs	40		
8.08	100 mm x 50mm Perforated type cable tray along with top cover (FOR UPS ROOM - UPS/TRAF0/BATTERY/O/P PANEL CONNECTIONS)	Mtrs	60		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	RACEWAYS				
	<p>Supply and Installation of the following sizes of raceways with covers suspended from the ceiling or Along the wall or in trench, in floor or on floor, Refer standard: IS 1079 & 513, Material: Mild steel, Finish: Galvanized for indoor & Hot dip galvanized for outdoor, DB circuit mains : powder coated raceways(only for DB Drops), Floor raceways thickness 1.6mm/cover 2mm thick, Junction box base 1.6mm/body and cover - 3mm thick, Server/Hub room race way body/cover thickness : 2mm thick, Intermediate Barriers - 1.6mm thick, Floor raceways of following sizes made of Pregalvanised sheet complete with welded cover of thickness, as specified with counter sunk type screws. Raceways shall comprise of totally enclosed, 'U' type channel with welded cover . This raceways & covers shall be fabricated using proper jigs and fixtures to get consistent dimensional accuracy. The raceways shall be supplied in standard length of 2.5M / 3.0M Each length shall have overlapping extension to connect the next length. The junction boxes shall have screwed covers. These shall be of the same make as the raceways. The height junction boxes shall be 50mm or to suit screed thickness as per site condition.</p>				
	RACEWAYS FOR DATA /POWER				
8.09	100mm x 40mm	Mtrs	375		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
8.10	200mm x 40mm with 1 Barrier	Mtrs	195		
8.11	300mm x 40mm with 1 Barrier	Mtrs	60		
8.12	200mm x100mm inside the HUB ROOM	Mtrs	75		
	JUNCTION BOXES FOR DATA / POWER				
8.13	150 x 150 x 50mm	No's	128		
8.14	250 x 250 x 50mm	No's	64		
8.15	350 x 350 x 50mm	No's	15		
	WALL TRUNKING				
	Wall trunking with cover shall be made up of Lead free Polyvinylchloride material as per EN 50085-2-1 and shall be ROHS complied.The trunking shall have smooth surface finish without sharp edges and Burrs.The trunking shall have IP 30 Protection against access to hazardous parts and shall be non flame propagating.The trunking shall have all accessories like internal corner cover ,external corner cover, T intersection cover ,flat angle cover...etc for complete cable management. The wall trunking shall be of Cream in colour and the standard size of the wall trunking shall be of dimensions mentioned below. This trunking should have the space/cutout for fixing the sockets above the front cover (Refer OBO bettermann cable routing system cat no WDK 60110)				
8.16	220 mm Width x 80 mm Depth TRUNKING WITH COVER (REFER OBO WALL TRUNKING WDK 80210 CW)	Mtrs	1268		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
8.17	INTERNAL CORNER COVER (REFER OBO WDK/HI 80210 C	NOS	300		
8.18	EXTERNAL CORNER COVER (REFER OBO WDK /HA 80210	NOS	300		
	POWDER COATED RACEWAYS FOR DB's (Only Dropping)				
8.19	100mm x 50mm Powder Coated without Barrier	Mtrs	200		
I	BUS DUCTS / RISING MAIN				
	NOTES: EXACT LENGTH OF BUS DUCT REQUIRED TO BE TAKEN AT SITE AND GA DRAWING SHALL BE SUBMITTED AND GOT APPROVED BEFORE FABRICATION.				
	SANDWICH BUS DUCTS - IP 54, BUS DUCT-1 (FROM END FEED UNIT 1 TO RISING MAIN (LHS)				
9.00	<p>Supply Installation Testing & Commisioning of 1250Amps TPN Al bus duct housed in 16SWG CRCA sheet steel enclosure powder coated with appropriate color with straight runs, bends etc. from End feed unit.</p> <p>The ducts should be supported from ceiling with anchor fasteners & down rods / rigid Ms angles at uniform standard intervals . One run of 50x6mm GI strip shall run along the length of the duct on either side for earthing.</p> <p>The bus bar size shall be rated for 1250A and size shall be decided based on 0.7A / sq.mm. Bus bar purity detail to be submitted along with mine certificate.</p> <p>Rate to be inclusive of monoblock interconnection.</p> <p>One set of GA drawing with rating with individual break up shall be submitted and got approved before manufacturing the same.</p>				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
9.01	Straight run comprising the following	mtr	32		
9.02	90 degree bend - 4set				
9.03	Aluminum flexible end joint - 1set				
9.04	End joint adopter box - 1set				
9.05	End cover - 1set				
9.06	SANDWICH BUS DUCTS - IP 54 , BUS DUCT-1 (FROM END FEED UNIT 2 TO RISING MAIN (RHS))				
	<p>Supply Installation Testing & Commissioning of 1250Amps TPN Al bus duct housed in 16SWG CRCA sheet steel enclosure powder coated with appropriate color with straight runs, bends etc. from End feed unit.</p> <p>The ducts should be supported from ceiling with anchor fasteners & down rods / rigid Ms angles at uniform standard intervals . One run of 50x6mm GI strip shall run along the length of the duct on either side for earthing.</p> <p>The bus bar size shall be rated for 1250A and size shall be decided based on 0.7A / sq.mm. Bus bar purity detail to be submitted along with mine certificate.</p> <p>Rate to be inclusive of monoblock interconnection.</p> <p>One set of GA drawing with rating with individual break up shall be submitted and got approved before manufacturing the same.</p>				
9.07	Straight run comprising the following	Mtr	34		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
9.08	90 degree bend - 4set				
9.09	Aluminum flexible end joint - 1set				
9.10	End joint adopter box - 1set				
9.11	End cover - 1set				
9.12	Supply, erection, testing and commissioning of TPN MCCB of 36KA, 100% lcs in suitable tap-off box enclosure, adopter boxes, copper extension bus bars as required at site including providing necessary earthing provisions.(FOR RISING MAINS)				
9.13	63A TPN	Nos	6		
9.15	160 A TPN	Nos	2		
9.16	200A TPN	Nos	4		
9.17	250A TPN	Nos	2		
9.18	630 A TPN	Nos	6		
	NOTES: The following plug in provisions shall be available in the respective rising mains. This is an information about the provision to be made in the rising mains for LHS & RHS. Rate to be inclusive while quoting.				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	RISING MAIN - PLUG IN POINT PROVISION				
9.19	63A TPN	Nos	6	RATE TO BE INCLUDED IN THE ABOVE ITEM	
9.20	160 A TPN	Nos	2	RATE TO BE INCLUDED IN THE ABOVE ITEM	
9.21	200A TPN	Nos	4	RATE TO BE INCLUDED IN THE ABOVE ITEM	
9.22	250A TPN	Nos	2	RATE TO BE INCLUDED IN THE ABOVE ITEM	
9.23	630 A TPN	Nos	6	RATE TO BE INCLUDED IN THE ABOVE ITEM	
	COMPACT AIR INSULATED TYPE BUS TRUNKING - IP 54				
	NOTES: EXACT LENGTH OF BUS TRUNKING REQUIRED TO BE TAKEN AT SITE AND GA DRAWING SHALL BE SUBMITTED AND GOT APPROVED BEFORE FABRICATION.				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	<p>Supply Installation Testing & Commissioning of 630Amps TPN Al bus trunking housed in 16SWG CRCA sheet steel enclosure powder coated with appropriate color with straight runs, bends etc. from STS/COS. The trunking should be supported from ceiling with anchor fasteners & down rods / rigid Ms angles at uniform standard intervals . One run of 50x6mm GI strip shall run along the length of the trunking on either side for earthing. The bus bar size shall be rated for 630A and size shall be decided based on 0.7A / sq.mm. Bus bar purity detail to be submitted along with mine certificate. Rate to be inclusive of monoblock interconnection. One set of GA drawing with rating with individual break up shall be submitted and got approved before manufacturing the same.(BUS TRUNK SHALL HAVE PLUG IN PROVISION/PLUG IN HOLES AT EVERY 500mm ON EITHER SIDES 25A TO 160A)</p>				
9.24	Straight run comprising the following	mtr	63		
9.25	Horizontal bend - 2 set				
9.26	Vertical bend - 1set				
9.27	T - type - 1 set				
9.28	Aluminum flexible end joint - 1set				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
9.29	End joint adopter box - 2 set				
9.30	End cover - 2 set				
	COMPACT AIR INSULATED TYPE BUS TRUNKING - IP 54				
	NOTES: EXACT LENGTH OF BUS TRUNKING REQUIRED TO BE TAKEN AT SITE AND GA DRAWING SHALL BE SUBMITTED AND GOT APPROVED BEFORE FABRICATION.				
	Supply Installation Testing & Commisioning of 400Amps TPN AI bus trunking housed in 16SWG CRCA sheet steel enclosure powder coated with appropriate color with straight runs, bends etc. from STS/COS. The trunking should be supported from ceiling with anchor fasteners & down rods / rigid Ms angles at uniform standard intervals . One run of 50x6mm GI strip shall run along the length of the trunking on either side for earthing. The bus bar size shall be rated for 400A and size shall be decided based on 0.7A / sq.mm. Bus bar purity detail to be submitted along with mine certificate. Rate to be inclusive of monoblock interconnection. One set of GA drawing with rating with individual break up shall be submitted and got approved before manufacturing the same. (BUS TRUNK SHALL HAVE PLUG IN PROVISION/PLUG IN HOLES AT EVERY 500mm ON EITHER SIDES 25A TO 160A)				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
9.31	Straight run comprising the following	mtr	127		
9.32	Horizontal bend				
9.33	Vertical bend				
9.34	T - type				
9.35	Aluminum flexible end joint				
9.36	End joint adopter box				
9.37	End cover				
	COMPACT AIR INSULATED TYPE BUS TRUNKING - IP 54				
	NOTES: EXACT LENGTH OF BUS TRUNKING REQUIRED TO BE TAKEN AT SITE AND GA DRAWING SHALL BE SUBMITTED AND GOT APPROVED BEFORE FABRICATION.				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	Supply Installation Testing & Commisioning of 160/200Amps TPN AI bus trunking housed in 16SWG CRCA sheet steel enclosure powder coated with appropriate color with straight runs, bends etc. from STS/COS. The trunking should be supported from ceiling with anchor fasteners & down rods / rigid Ms angles at uniform standard intervals . One run of 50x6mm GI strip shall run along the length of the trunking on either side for earthing. The bus bar size shall be rated for 160/200A and size shall be decided based on 0.7A / sq.mm. Bus bar purity detail to be submitted along with mine certificate. Rate to be inclusive of monoblock interconnection. One set of GA drawing with rating with individual break up shall be submitted and got approved before manufacturing the same. (BUS TRUNK SHALL HAVE PLUG IN PROVISION/PLUG IN HOLES AT EVERY 500mm ON EITHER SIDES 25A TO 160A)				
9.38	Straight run comprising the following	mtr	72		
9.39	Horizontal bend - 2 set				
9.40	Vertical bend - 1set				
9.41	T - type - 1 set				
9.42	Aluminum flexible end joint - 1set				
9.43	End joint adopter box - 2 set				
9.44	End cover - 2 set				

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
	COMPACT AIR INSULATED TYPE BUS TRUNKING - IP 54				
	NOTES: EXACT LENGTH OF BUS TRUNKING REQUIRED TO BE TAKEN AT SITE AND GA DRAWING SHALL BE SUBMITTED AND GOT APPROVED BEFORE FABRICATION				
	Supply Installation Testing & Commissioning of 200Amps TP+2N CU bus trunking housed in 16SWG CRCA sheet steel enclosure powder coated with appropriate color with straight runs, bends etc. from STS/COS. The trunking should be supported from ceiling with anchor fasteners & down rods / rigid Ms angles at uniform standard intervals . One run of 50x6mm GI strip shall run along the length of the trunking on either side for earthing. The bus bar size shall be rated for 200A and size shall be decided based on 1.2A / sq.mm. Bus bar purity detail to be submitted along with mine certificate. Rate to be inclusive of monoblock interconnection. One set of GA drawing with rating with individual break up shall be submitted and got approved before manufacturing the same. (BUS TRUNK SHALL HAVE PLUG IN PROVISION/PLUG IN HOLES AT EVERY 500mm ON EITHER SIDES 25A TO 160A)				
9.45	Straight run	mtr	57		
9.46	Horizontal bend	set	3		
9.47	Vertical bend	set	1		
9.48	Copper flexible end joint	set	1		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
9.49	End joint adopter box	set	1		
9.50	End cover	set	1		
	COMPACT AIR INSULATED TYPE BUS TRUNKING - IP 54				
	NOTES: EXACT LENGTH OF BUS TRUNKING REQUIRED TO BE TAKEN AT SITE AND GA DRAWING SHALL BE SUBMITTED AND GOT APPROVED BEFORE FABRICATION				
	Supply Installation Testing & Commissioning of 63 Amps TP+2N CU bus trunking housed in 16SWG CRCA sheet steel enclosure powder coated with appropriate color with straight runs, bends etc. from STS/COS. The trunking should be supported from ceiling with anchor fasteners & down rods / rigid Ms angles at uniform standard intervals . One run of 50x6mm GI strip shall run along the length of the trunking on either side for earthing. The bus bar size shall be rated for 63/125A and size shall be decided based on 1.2A / sq.mm. Bus bar purity detail to be submitted along with mine certificate. Rate to be inclusive of monoblock interconnection. One set of GA drawing with rating with individual break up shall be submitted and got approved before manufacturing the same.(BUS TRUNK SHALL HAVE PLUG IN PROVISION/PLUG IN HOLES AT EVERY 500mm ON EITHER SIDES 25A TO 160A)				
9.51	Straight run	mtr	203		
9.52	Horizontal bend	set	8		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
9.53	Vertical bend	set	3		
9.54	T - type	set	3		
9.55	Copper flexible end joint	set	3		
9.56	End joint adopter box	set	6		
9.57	End cover	set	6		
9.58	Supply, erection, testing and commissioning of TPN MCCB of 25KA, 100% lcs in suitable tap-off box enclosure, adopter boxes, copper extension bus bars as required at site including providing necessary earthing provisions.(FOR BUS TRUNKING)				
9.59	25A TPN	Nos	3		
9.60	32A TPN	Nos	6		
9.61	40 A TPN	Nos	16		
9.62	63A TPN	Nos	15		
9.63	80A TPN	Nos	17		
9.64	32A TP+2N	Nos	29		
9.65	40 A TP+2N	Nos	3		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
9.66	63 A TP+2N	Nos	1		
9.67	80 A TP+2N	Nos	1		
9.68	Supply Installation Testing & Commissioning of 1250Amps FP AI AIR INSULTAED IP65 bus duct housed in 16SWG CRCA sheet steel enclosure powder coated with appropriate color with straight runs, bends etc. from DG. The ducts should be supported from ceiling with anchor fasteners & down rods / rigid Ms angles at uniform standard intervals . One run of 50x6mm GI strip shall run along the length of the duct on either side for earthing. The bus bar size shall be rated for 1250A and size shall be decided based on 0.7A / sq.mm. Bus bar purity detail to be submitted along with mine certificate. Rate to be inclusive of monoblock interconnection. One set of GA drawing with rating with individual break up shall be submitted and got approved before manufacturing the same.				
9.69	Straight run 90 degree bend - 8 set Aluminum flexible end joint - 2 set End joint adopter box / End Cover - 2 set	Nos	55		
J	LIGHT FITTINGS				
10.01	SITC OF 4FT SURFACE MOUNTED T8 LAMP (CLEAN ROOM) (WIPRO CAT : WIF 52236)	Nos	121		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
10.02	SITC OF 4FT SURFACE MOUNTED T5 LAMP 2X28W (WIPRO : WVF48228 SGW)	Nos	96		
10.03	SITC OF RECESS MOUNTED CFL DOWNLIGHTER 2X18W (WIPRO : WCP36218)	Nos	626		
10.04	SITC OF 28W PATTI FITTING (WALL MOUNTED)	Nos	92		
10.05	SITC OF 4FT 2X28W T5 RECESSED MOUNTED LIGHT FITTING (PHILIPS CAT.N: TBS669M)	Nos	305		
10.06	SITC OF 2X28W T5 4FT LIGHT FITTING.(SURFACE MOUNTED) (PHILIPS CAT.NO: TCS150)	Nos	313		
10.07	SITC OF 1x14w CFL wall mount light fitting or Similar to T5 - WRP 21111	Nos	8		
10.08	SITC OF OCCUPANCY SENSOR PHILIPS LRM 1070/ WIPRO COP 10006	Nos	202		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
10.09	Outdoor light - 25W LED Street light with 5 Mtr pole (IP65,cool white) Similar to Philips 25W Green line smart	Nos	28		
10.10	Outdoor light - 25W LED Street light with wall mounting supports (IP65,cool white) Similar to Philips 25W Green line smart	Nos	15		
10.11	Supply, Installation Testing & commissioning of 2 x 28W T8 Fitting with required suspension arrangement from the ceiling (Philips TMS 021 2XTLD36W EBT or equivalent)	Nos	17		
K	MISCELLANEOUS				
	Quantified as per project requirement				
11.01	Hume pipes				
11.02	Supplying and laying of 25mm PVC pipe on surface/recessed with suitable accessories.	RMT	36000		
11.02	300mm Dia	RMT	42		
11.03	Towards Preparation of Drawings, Getting Approval, Arranging Inspection and Obtaining Safety Certificate from Local Electrical Inspectorate Authorities inclusive of all incidental charges.	Lot	1		
L	SAFETY ITEMS				
	For All floor Electrical rooms, UPS rooms, battery room etc				
12.01	2mtrX1mtrX6mm thick Fire Rated PVC Insulated rubber Mats 1100V grade(As per IS: 15652:2006)	Nos	17		
12.02	4.5 Kg CO2 type Fire Extinguishers	Nos	14		

S.No	Description	Unit	Quantity	Rate (Rs.in figures and words)	Amount in Rs
12.03	5 Kg ABC type Fire Extinguishers	Nos	7		
12.04	Safety glasses for battery room	Nos	5		
12.05	Caution Boards	Nos	7		
12.06	First aid chart	Nos	7		
12.07	First Aid kits	Nos	7		
12.08	Hand gloves - 1100V grade	Nos	7		
TOTAL A to L (ELECTRICAL WORKS - SCHEDULE - B)					

Total amount (Rs in words).....

Certified that the tender document as published in the website contains 66 pages (including cover page).

Signature of the Contractor

Superintending Engineer