

**Supply, Installation, Testing & Commissioning of Electrical Work in Lecture Theatre Building (G+2) at
DAU Gandhinagar**

Sl.No	ITEM DESCRIPTION	Building Qty	Unit	Rate	Amount
A	MAIN FEEDER DISTRIBUTION				
A1	LT SWITCH BOARDS				
	415V, 3phase, 4wire floor mounting, free standing / wall mounting, Cubicle type, Compartmentalized construction of LT Switchboards conforming to enclosed technical specification and Single line diagrams.				
A1.1	MAIN SWITCH BOARD				
1	Main LT Panel (415V) (As Per SLD Drawing)	2	Nos.		
2	Lift & Escallator Panel	2	Nos.		
	MAKE - Havells, L & T, Schneider,Siemens,ABB				
A2	LT CABLES				
	Supply & Laying of 1.1kV grade XLPE insulated and PVC sheathed Aluminium/ Copper conductor.				
A2.1	XLPE insulated conductor cables				
1	3.5C 300 sq.mm. Al. Armoured (From CSS to Main Panel)	150	Mtr.		
2	3.5C 300 sq.mm. Al. Armoured (From CSS to Main Panel)	120	Mtr.		
3	3.5C 50 sq.mm. Al. Armoured (From DG SET to Main Panel)	50	Mtr.		
	MAKE - Finolex, PolyCab, KEI Cable				
A3	LT CABLE BRASS CABLE GLANDS				
	Supply & Cable termination using DOUBLE compression glands for cable sizes of 70 Sqmm and above and SINGLE compression brass cable glands				
A3.1	XLPE insulated conductor cables				
1	3 & 1/2 core 300 Sq. mm	5	Nos.		
2	3 & 1/2 core 300 Sq. mm	4	Nos.		
3	3 & 1/2 core 50 Sq. mm	1	Nos.		
	MAKE - Comet, Dowell, 3M				
A4	LT CABLE ALUMINIUM LUGS				
A4.1	XLPE insulated conductor cables				
1	3 & 1/2 core 300 Sq. mm	30	Nos.		
2	3 & 1/2 core 150 Sq. mm	10	Nos.		
3	3 & 1/2 core 300 Sq. mm	24	Nos.		
4	3 & 1/2 core 150 Sq. mm	8	Nos.		
5	3 & 1/2 core 50 Sq. mm	6	Nos.		
6	3 & 1/2 core 25 Sq. mm	2	Nos.		
	MAKE - Comet, Dowell, 3M				
A5	LT CABLE TERMINATION WORK				
	Supply & Cable termination using DOUBLE compression glands for cable sizes of 70 Sqmm and above and SINGLE compression brass cable glands				
A5.1	XLPE insulated conductor cables				
1	3 & 1/2 core 300 Sq. mm	10	Nos.		
2	3 & 1/2 core 300 Sq. mm	8	Nos.		
3	3 & 1/2 core 50 Sq. mm	2	Nos.		
	MAKE - Comet, Dowell, 3M				

Sl.No	ITEM DESCRIPTION	Building Qty	Unit	Rate	Amount
A6	EARTHING SYSTEM				
A6.1	GI EARTHING CONDUCTOR				
1	50mm x 6mm GI flat	10	Mtr.		
2	25mm x 6mm GI flat	80	Mtr.		
3	50x6mm GI. 600mm Long Bus bar with FRP Supporting insulator with suitable size of Brass coated Bolts and Nuts and suitable size of Grip Bolts	5	Nos.		
A7	MISCELLANEOUS ITEMS				
a	ISMC channels/angles supporting structure.		Kg.		
A8	EXCAVATED TRENCH WORKS FOR HUMPIPE / PVC PIPE				
a	300mm W x 600mm D excavation and Buried	200	Mtr.		
b	LT cable route marker grouted in earth	--	Nos.		
A8	MEDIUM DUTY CABLE PULL CHAMBER				
a	1000x1000x1000mm Cable pull chambers.	--	Nos.		
B	MAIN LIGHTING / POWER AND MECHANICAL DISTRIBUTION PANELS				
B1	MAIN LIGHTING / POWER DISTRIBUTION PANELS				
B1.1	415V, 3phase, 4wire floor mounting, free standing / wall mounting Panel				
1	Lecture Room Lighting LDBS (As Per SLD Drawing)	10	Nos.		
2	Lecture Room PDBS (As Per SLD Drawing)	6	Nos.		
3	Lecture Room HVAC DBS (As Per SLD Drawing)	6	Nos.		
4	Common DB GF & GF MEZ FL Front side (As Per SLD Drawing)	2	Nos.		
5	Common DB FF & FF MEZ FL Front side (As Per SLD Drawing)	2	Nos.		
6	Common DB SF & SF MEZ FL Front side (As Per SLD Drawing)	2	Nos.		
7	Common DB TF & TF MEZ FL Front side (As Per SLD Drawing)	2	Nos.		
8	Common DB 4TH F & 4TH F MEZ FL Front side (As Per SLD Drawing)	2	Nos.		
9	Common DB 2 GF Back side (As Per SLD Drawing)	1	Nos.		
	MAKE - Havells, L & T, Schneider,Siemens,ABB				
B2	CABLE TRAY				
B2.1	Perforated Type Cable trays - MS Painted				
1	300mm (W) x 50mm (H) x 1.6 mm (T)	70	Mtr.		
2	75mm (W) x 50mm (H) x 1.6 mm (T)	200	Mtr.		
	MAKE - MK Legrand, INDIANA, OBO Betterment				
B3	EARTHING SYSTEM				
B3.1	GI EARTHING CONDUCTOR				
1	25mm x 3mm GI flat	10	Mtr.		
C	SECONDARY WIRING FROM PANELS				
C1	LT CABLES				
	Supply & Laying of 1.1kV grade XLPE insulated and PVC sheathed Aluminium/ Copper conductor				
C1.1	XLPE insulated conductor cables				
1	4C 16 sq.mm. AL. Armoured (Used in PDBs)	65	Mtr.		
2	4C 10 sq.mm. AL. Armoured (Used in LIFTs)	130	Mtr.		
3	4C 4 sq.mm. AL. Armoured (Used in Common DBs, ACDBs & ODUs)	365	Mtr.		
4	3C 4 sq.mm. AL. Armoured (Used in Common LDBs & Classroom LDBs)	590	Mtr.		

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	MAKE - Finolex, PolyCab, KEI Cable				
C2	LT CABLE BRASS CABLE GLANDS				
	Supply & Cable termination using DOUBLE compression glands for cable sizes of 70 Sqmm and above and SINGLE compression brass cable glands				
C2.1	XLPE insulated conductor cables				
1	2 to 4 core 16 Sq. mm	6	Nos.		
2	2 to 4 core 10 Sq. mm	2	Nos.		
3	2 to 4 core 2.5/4 Sq. mm	51	Nos.		
	MAKE - Comet, Dowell, 3M				
C3	LT CABLE ALUMINIUM LUGS				
	Supply & Cable termination using DOUBLE compression glands for cable sizes of 70 Sqmm and above and SINGLE compression brass cable glands				
C3.1	XLPE insulated conductor cables				
1	2 to 4 core 16 Sq. mm	48	Nos.		
2	2 to 4 core 10 Sq. mm	16	Nos.		
3	2 to 4 core 2.5/4 Sq. mm	368	Nos.		
	MAKE - Comet, Dowell, 3M				
C4	LT CABLE TERMINATION WORK				
	Supply & Cable termination using DOUBLE compression glands for cable sizes of 70 Sqmm and above and SINGLE compression brass cable glands				
C4.1	XLPE insulated conductor cables				
1	2 to 4 core 16 Sq. mm	12	Nos.		
2	2 to 4 core 10 Sq. mm	4	Nos.		
3	2 to 4 core 2.5/4 Sq. mm	102	Nos.		
C5	GI EARTHING CONDUCTOR				
1	8 SWG GI Wire (Used in all DBs)	100	Mtr.		
D	LIGHTING SYSTEM WORK				
D1	POINT WIRING				
D1.1	Point wiring of light points complete with all wiring materials such as 1100V, FRLS grade multi strand flexible copper wire of 2RX2.5+1RX1.5 Sqmm				
1	Single Light Control Point using 1 Sq.mm Copper Flexible Ckt Wiring, Switches, Switch Plate, Back Box, Accessories & Connections etc. Complete as per EIC. (5 Mtr)	110	Nos.		
2	Looped Light Control Point using 1 Sq.mm Copper Flexible Ckt Wiring, Switches, Switch Plate, Back Box, Accessories & Connections etc. Complete as per EIC. (2 Mtr)	282	Nos.		
3	FAN Control Point using 1 Sq.mm Copper Flexible Ckt Wiring, Switches, Switch Plate, Back Box, Accessories & Connections etc. Complete as per EIC. (5 Mtr)	6	Nos.		
4	JB for Light fixtures	368	Nos.		
5	JB for Fan fixtures with Hook (Used in Offices)	6	Nos.		
6	Supply and installation of 2 meters length, 3mm thick GI Chain with 6mm GI 'S' hook and 6mm GI wire for providing additional support to high bay light fixtures.	6	Nos.		
D2	LIGHTING CIRCUIT MAIN				
D2.1	Providing all materials, accessories and labour for wiring for light / fan circuit main using FRLS insulated stranded copper conductor wires of 1100V grade				
1	2 x 2.5sqmm + 1 x 1.5sqmm wires.	730	Mtr.		
2	2 x 1.5sqmm + 1 x 1.5sqmm wires.	280	Mtr.		
3	3C x 2.5sqmm Cu Flexible Cable	300	Mtr.		
	MAKE - Finolex, PolyCab, Havells				
D3	CONDUIT:				

Sl.No	ITEM DESCRIPTION	Building Qty	Unit	Rate	Amount
1	20mm PVC Conduite Pipe Laying with Zari work in brick masonry wall 18 using electrical cutter/braker. Finish zari work using chicken mess, single coat finish plaster with line & level etc. complete as per EIC. MAKE : Vraj, Finolex, Nihir	277	Mtr.		
2	25mm PVC Conduite Pipe Laying with Zari work in brick masonry wall 18 using electrical cutter/braker. Finish zari work using chicken mess, single coat finish plaster with line & level etc. complete as per EIC. MAKE : Vraj, Finolex, Nihir	505	Mtr.		
D4	LIGHT FIXTURE				
1	1 x 45W High Quality LED LOWbay light, Surface mounted industrial fixture (used in front passage) MAKE - Philips, Havells, LT	6	Nos.		
2	2' X 2' 36W, Surface / Raceway Mounted LED type Light fixture (used in front classroom) MAKE - Philips, Havells, LT	210	Nos.		
3	1 x 70W flood light wall Mounted LED type Light fixture (used in outer side of building) MAKE - Philips, Havells, LT, Delta	10	Nos.		
4	1 x 10W LED WALL mounted luminaire (used in lift) MAKE - Philips, Havells, LT	2	Nos.		

Sl.No	ITEM DESCRIPTION	Building Qty	Unit	Rate	Amount
5	1 x 20W Recess mounted pressure die-cast aluminium luminaire (used in toilet, offices, front passage & back passage) MAKE - Philips, Havells, LT	165	Nos.		
6	1 x 20W LED TUBELIGHT WALL mounted luminaire (used in toilets & offices) MAKE - Philips, Havells, LT	25	Nos.		
7	1200mm, ceiling mounted FAN & fix with necessary clamps/support, connection etc. complete (used in offices) MAKE - Crompton Greaves, Havells, Almonard	14	Nos.		
8	250mm PVC, Wall mounted Air EX.FAN & fix with necessary clamps/support, connection etc. complete (used in toilets) MAKE - Crompton Greaves, Havells, Almonard	12	Nos.		
D5	TIMER & CONTECTOR				
1	12-24 Hour Timer	12	Nos.		
2	Two-Pole Contector	12	Nos.		
	MAKE - L & T, Schneider, ABB, Legrand				
E	SOCKET OUTLET WORK				
E1	FLOOR WORK				
E1.1	FLOOR CONDUIT - PVC				
1	25mm PVC Floor Conduit	3960	Mtr.		
2	20mm PVC Floor Conduit 'MAKE : Vraj, Finolex, Nihir	3072	Mtr.		
3	150mm wide x 150mm high x 50mm depth junction box	160	Nos.		
4	350mm wide x 350mm high x 50mm depth junction box 'MAKE - MK Legrand, INDIANA, OBO Betterment	114	Nos.		
E1.2	CONDUIT:				
1	25mm PVC Conduite Pipe Laying with Zari work in brick masonry wall 18 using electrical cutter/braker. Finish zari work using chicken mess, single coat finish plaster with line & level etc. complete as per EIC. MAKE : Vraj, Finolex, Nihir	1300	Mtr.		
E2	SUBMAINS AND CIRCUIT MAINS				
1	2 x 2.5sqmm + 1 x 1.5sqmm wires.	3100	Mtr.		
2	2 x 1.5sqmm + 1 x 1.5sqmm wires.	2210	Mtr.		
	MAKE - Finolex, PolyCab, Havells				
E3	ELECTRICAL CABLE TRAY				
1	200mm Wide x 50mm Depth cable tray	415	Mtr.		
E4	SOCKET OUTLETS (MAKE - HIFI, Legrand (Artier Series), Schneider (Neo C metroSeries))				
1	On Borad 6Amp Power point with Switches, Sockets, Switch Plate, Back Box with Accessories & 1.5Sq.mm Wire Connections etc. Complete as per EIC. (5 Mtr) (Used in offices & lift)	8	Nos.		
2	On Borad 16Amp Power point with Switches, Sockets, Switch Plate, Back Box with Accessories & 2.5Sq.mm Wire Connections etc. Complete as per EIC. (5 Mtr) (Uesd in Toilets)	6	Nos.		
3	Power Point using Separate 2Nos. 6Amp Switch & Socket, Backbox, Single Phase Three Wire, 2.5 Sqmm (PN) x 1.5 Sqmm (EH), Copper Copper Flexible Wire Circuit Wiring with Accessories & Connections etc. Complete as per EIC. (5 Mtr) (Uesd in Classrooms for Work Station)	948	Nos.		
4	Power Point using Separate 3Nos. 6Amp Switch & Socket, Backbox, Single Phase Three Wire, 2.5 Sqmm (PN) x 1.5 Sqmm (EH), Copper Copper Flexible Wire Circuit Wiring with Accessories & Connections etc. Complete as per EIC. (5 Mtr) (Uesd in offies for Work Station)	12	Nos.		
5	Power Point using Separate 6Amp Switch & Socket, Backbox, Single Phase Three Wire, 1.5 Sqmm (PN) x 1.5 Sqmm (EH), Copper Copper Flexible Wire Circuit Wiring with Accessories & Connections etc. Complete as per EIC. (5 Mtr) (Uesd in offices, drink water & classroom)	88	Nos.		

Sl.No	ITEM DESCRIPTION	Building Qty	Unit	Rate	Amount
6	Power Point using Separate 16Amp Switch & Socket, Backbox, Single Phase Three Wire, 2.5 Sqmm (PN) x 1.5 Sqmm (EH), Copper Copper Flexible Wire Circuit Wiring with Accessories & Connections etc. Complete as per EIC. (5 Mtr) (Used in offices, drink water, toilet & classroom)	204	Nos.		
E4	INDUSTRIAL TYPE POWER SOCKETS & ISOLATORS				
E4.1	INDUSTRIAL TYPE POWER SOCKETS				
1	1 No.16A / 20A / 32A 415V, Three phase, TP+NE industrial type Metal Clad power socket in Powder coated MS enclosure controlled by 20A / 32A 4P MCB with all fixing accessories (Indoor type-IP52). (Place at GF Mezenine Floor & FF Mezenine Floor)	12	Nos.		
	MAKE - Havells, L & T, Schneider, Siemens, ABB, Legrand				
E4.2	ISOLATORS in Powder Coated MS Enclosure				
1	32A TP + NL MCB Type Isolator in IP-52 Powder coated MS enclosure.	24	Nos.		
	MAKE - Havells, L & T, Schneider,Siemens,ABB				
F	LA SYSTEM				
1	SITC of Vertical Air Termination Solid aluminium with Base - 10 mm dia. and 1000 mm long. Air Termination Base tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350 μ s waveform in an accredited. Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 with appropriate MAST 34 mm dia. 3000mm long-cold galvanized .as per EIC.(OBBO,JEE,CAPE,DHEN ,Axis, SSS MAKE)	4	Mtr.		
2	SITC of 8 mm dia solid Aluminium Conductor for roof top mesh grid and tested as per IEC 62561- 2 conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/IEC 62305 with Required Accessories - Aluminium Holding clamp at every 1 mtr distance, Aluminium/SS cross splicer at every crossing of Alu. conductor, Expansion piece with connectors at every 20 mtr distance, Aluminium straight Splicer to connect conductors. All Accessories should be tested as per IEC 62561-1 2018 Cl. 6.3 for conditioning & Ageing Test & 6.4 for Lightning impulse current withstand test: 100 kA of 10/350 μ s waveform (Ageing & Electrical test) conducted in a sequence manner & tested in the Govt. accredited Third party laboratory to meet the requirements of IS/IEC 6230	120	Mtr.		
3	SITC of Galvanized Steel Flat 25 x 6 mm thickness from earth electrode directly in ground as required. Zinc coating: 500 g/m square (Approx: 70 micron coating) tested and used exclusively for lightning protection earthing system and ring equipotential bonding.	276	Mtr.		
4	SITC of 14.2 mm dia. 3 mtr. long Earth electrode of High tensile steel electrode with 250 micron copper bonding & 1 bag of Carbon fill Based environment friendly backfill tested as per IEC 62561-7 in NABL accredited Laboratory and suitable stainless Steel double sided clamp. Eco Friendly rust proof heavy duty weather proof Polyethylene Earth Pit Chamber with following dimensions: 254 mm dia. (top), 330 mm dia. (bottom) & 260 mm (height).	4	Mtr.		
G	DG SET				
1	Supply, Installation, Testing and Commissioning (SITC) of ____82.5__KVA Silent Type Diesel Generating (DG) Set(s) of prime power rating (kVA) as specified, complete as a packaged system, conforming to CPCB IV+ (or better) emission norms, and complying with all applicable statutory requirements, codes and standards including (but not limited to) IS 4722:1968, IS 13364 (Part 2) and BS 5514 (latest editions/amendments). The DG set shall be suitable for 415 V $\pm$ 10%, 50 Hz $\pm$ 5%, 3-phase, 4-wire operation at 0.8 lagging power factor, 1500 RPM, for tropical conditions, and shall be capable of delivering 10% overload for one (1) hour after twelve (12) hours of continuous operation (ISO 8528), unless otherwise stated by the OEM. The scope shall include complete accessories, interconnections, anti-vibration arrangements, exhaust system, acoustic enclosure, consumables for first commissioning, and all works necessary to render the installation fully functional and compliant, as directed by the Engineer-in-Charge (EIC).	1	Each		
H	HT CONNECTION				

Sl.No	ITEM DESCRIPTION	Building Qty	Unit	Rate	Amount
1	Supply of 1000 KVA Outdoor type Compact Substation consisting of Transformer, HT switchgear and LT Switchgear and confirming to IS/IEC 62271-202. a) Transformer: 500 KVA Copper wound 11kV /433 V DYn11, Dry Cast resin type Transformer with tapping range +10 to -10% @ 2.5% (with tolerance), class F , with surge restorers, Digital WTI, IS/IEC 62271-202 as per b) HT Compartment: 11kV, 21kA for 3 Sec . 630 A 50 Hz, gas insulated VCB in SS tank in sheet enclosure having provision for one no. direct connection of Incoming supply cable up to 300sq mm and one no. VCB(Manually charging & closing) in series with LBS between VCB and Transformer, Self Powered Relay 3 O/C +1 E/F Relay type CSPR-V5, mechanical ON/OFF indicator, trip coil , Manual Close & Trip PB, live cable indicator, mechanical interlocks, pad locking facility, SF6 gas manometer, cable boots, 3 nos. CTs with Ratio -/1A, CI: 5P10, 2.5 VA for protection c) LV side compartment : one no. ACB of 800A, 50kA, 4Pole, Microprocessor based release with arrangement for bottom	1	Each		
	Providing printed instruction chart both in English and Gujarati and duly framed with front glasses, for treatment of person suffering from Electric shock	1	Nos.		
	Providing pair of rubber hand gloves suitable for working on 11 KV/22 KV supply.	2	Nos.		
	Supplying rubber matting of 4 mm thickness as per IS 5424 and of required length and breadth with good insulation property for 22 KV	6	SQ. Mtr.		
	Supplying rubber matting of 12 mm thickness as per IS 5424 and of required length and breadth with good insulation property for 22 KV	12	SQ. Mtr.		
	Supplying stand first AID box with antiseptic cream, medicine for use on wounds due burn, crepe bandage, gauge bandage, medicated ready to use bandage (Band-aid) adhesive tape for medicinal user, Scissors, anti-septic solution (Savlon or similar) etc. (All above contents shall be of standard makes)	2	Nos.		
	Supplying FIRE bucket round bottom of 9 litres capacity made out of 24 guage G.I. sheet with extra handle at bottom duly painted white inside and Red out side with FIRE mark, filled with dry-sand and kept on existing stand provided or hung on wall hook.	4	Nos.		
	Supplying and erecting floor mounting stand for keeping four nos. of FIRE buckets comprising 1500 mm in length, 900 mm height frame made out of 30 mm X 30 mm X 4 mm angle iron with cross supports for legs, welded with 4 hooks and duly painted with one coat of red lead and two coats of approved enamelled silver paint	1	Nos.		
	Wall hook 22 to 25 cms. projection for keeping fire buckets made out of 15 mm dia. M.S rod grouted in wall to a depth of minimum 15 cms	1	Each		
2	Providing and erecting ISI Marked 3core 185 Sq.mm XLPE insulated 11 KV armoured cable Aluminium conductor IS-7098 to be laid on wall with clamps or in provided cable trench / pipe approved manner as directed.	--	Nos.		
3	Providing and erecting cable end termination kit, heat shrinkable Push on type Densons/ Raychem/ Elastimold make suitable for 11 kV XLPE cable 3core 95 & 120/185 Sq.mm A) Outdoor type	--	Each		
4	Providing and erecting cable end termination kit, heat shrinkable Push on type Densons/ Raychem/ Elastimold make suitable for 11 KV XLPE cable 3core 120/185 Sq.mm Indoor type	--	Each		
				Amount	
				GST 18%	
				Total Amount	