

Schedule of Work

Name of work : Construction of Seminar Hall (MN301) at the Mining department during 2026-27 at IEST, Shibpur, Howrah (W.B).

Sl No.	Description of item	Qty.	Unit	Rate	Amount	DSR 2025, MR
SH-I	Internal Electrical installation and wiring					
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/ recessed medium class PVC conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable etc. as required.					
1.1	Group - C	13	Point	1680.0	21840.00	1.8.3
2	Wiring for group controlled (looped) light point/fan point/exhaust fan point/ call bell point (without independent switch etc.) with 1.5 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/ recessed PVC conduit, and earthing the point with 1.5 sq. mm FRLS/HFFR PVC insulated copper conductor single core cable etc. as required.					
2.1	Group C	5	Point	994.0	4970.00	1.55.3
3	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	5	Each	659.0	3295.00	1.32
4	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 2 nos. 3 pin 5/6 A modular socket outlet and 2 nos. 5/6 A modular switch, connections etc. as required. (For light plugs to be used in non residential buildings).	14	Each	757.0	10598.00	1.56
5	Supplying and fixing 3 pin, 5 A ceiling rose on the existing junction box/ wooden block including connections etc. as required.	18	Each	104.0	1872.00	1.33
6	Supplying and drawing following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required.					
6.1	3 x 4 Sq. mm	200	Mtr	222.0	44400.00	1.17.21
6.2	6 x 4 Sq. mm	100	Mtr	424.0	42400.00	1.17.24
6.3	3 x 6 Sq. mm	2	Mtr	326.0	652.00	1.17.30
7	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required.					

Sl No.	Description of item	Qty.	Unit	Rate	Amount	DSR 2025, MR
7.1	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	20	Mtr	370.0	7400.00	1.7.1
7.2	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	50	Mtr	1760.0	88000.00	1.7.11
8	Supplying and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required					
8.1	20 mm	60	Mtr	151.0	9060.00	1.21.1
8.2	25 mm	20	Mtr	168.0	3360.00	1.21.2
9	Supplying and fixing of following sizes of PVC trunking cable management system i/c all other accessories i.e cover, cable divider, end cap, internal and external angle,joint cover, tee, cable retainer, End Cap etc., on surface/in recess including cutting the wall and making good the same in case of recess as required.					
9.1	50 mm X 50 mm	80	Mtr	525.0	42000.00	MR
10	Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required.					
10.1	1 or 2 Module (75mmX75mm)	14	Each	354.0	4956.00	1.27.1
11	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					
11.1	6 pin 15/16 A socket outlet	2	Each	219.0	438.00	1.24.5
11.2	25 A Motor Starter	2	Each	314.0	628.00	MR
SH-II	MCCB, MCB & DB'S					
12	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)					
1.2	8 way (4 + 24), Double door	1	Each	6337.0	6337.00	2.4.3
13	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB/Isolator)					
13.1	8 way , Double door	1	Each	2773.0	2773.00	2.3.2

Sl No.	Description of item	Qty.	Unit	Rate	Amount	DSR 2025, MR
14	Supplying and fixing 5 amps to 32 amps rating, 240/415 volts, 10KA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
14.1	Single pole	24	Each	285.0	6840.00	2.10.1
14.2	Double pole	1	Each	696.0	696.00	2.10.3
15	Supplying and fixing 63 A rating, 415 V, Four pole, conforms to IS/IEC 60898-10 kA, "C" curve, miniature circuit breaker suitable for inductive load in the existing MCB DB complete with connections, testing and commissioning etc. as required. (For 6 Way HTPN DB incomer)	1	Each	2775.0	2775.00	MR
16	Supplying and fixing 63 A rating, 415 V, Triple pole, conforms to IS/IEC 60898-10 kA, "C" curve, miniature circuit breaker suitable for inductive load in the existing MCB DB complete with connections, testing and commissioning etc. as required.	1	Each	2226.0	2226.00	MR
SH-III	Fittings					
17	Supplying, installation, testing and commissioning of 400 mm sweep oscillating wall fan, metal body, minimum Air Delivery 100 m3/min, minimum speed of 2100 RPM, with thermal overloading protection, uniform oscillation etc. to be installed on wall with required size of nuts, bolts including connection complete suitable for 230 V,50 Hz AC supply as reqd.	6	Each	3137.00	18822.00	MR

Sl No.	Description of item	Qty.	Unit	Rate	Amount	DSR 2025, MR
18	Supplying, installation, Testing & Commissioning of Panel light 2x2 ft., of following body material and construction as per IS : 10322 with driver as per the requirement with Driver efficiency >85%, Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range -5 0C to 40 0C, internal surge protection of 2.5 KV with Short & Open circuit protection, THD < 10% , P. F.≥0.95, IP20, CRI ≥80, UGR (Unified Glare Rating) ≤ 19, Flicker free, (flicker should be below 5 %), life time (LED, Driver & electrical circuitry), of minimum 50000 Burning Hours with, 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM-21-11 report, CCT 3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin), SDCM(Standard Deviation Colour Matching) <3, Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard. Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing. complete in all respect i/c external connections with 1.5 sq mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥105 <120 lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).					
	Powder Coated CRCA Sheet Body (Thickness ≥ 0.50 mm)					
18	40 watt	6	Each	2197.00	13182.00	8.6.11

Sl No.	Description of item	Qty.	Unit	Rate	Amount	DSR 2025, MR
19	Supplying, Installation, Testing & Commissioning of LED Recessed/ surface Down lighter (Round/ square/ Rectangular) SMD type of following body material with PMMA and prismatic diffuser and construction as per IS : 10322 with driver as per the requirement with Driver efficiency >85%, Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range -5°C to 40°C, internal surge protection of 2.5 KV with Short & Open circuit protection ,THD < 10% , P. F.≥0.95, IP20, CRI ≥80, UGR (Unified Glare Rating) ≤ 19, Flicker free (flicker should be below 5%), life time (LED, Driver & electrical circuitry), of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends, CCT 3000°K /4000°K / 5700°K / 6500°K (As per ANSI Bin), SDCM (Standard Deviation Colour Matching) <3, Maximum power consumption should not more than the specified rating and Fixture shall be confirming to relevant BIS standards. Manufactures Word Mark/ Name Engraved/ Embossing/ Screen printing on housing Complete in all respect i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥105 and <120 lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C)					
	Powder coated die cast /Extruded aluminum Body including trim					
19.1	12 -15 watt	6	Each	715.00	4290.00	8.1.3
20	Supplying and Fixing of 02 Nos SS chain link, Diameter of 5 mm, to fastening/hanging of recess 2'X2' LED panel light with hard ceiling surface, etc as required.	6	Each	427.00	2562.00	MR
SH-IV	LAN					
21	Supplying, Installation, Testing and commissioning of CAT6A Copper Information Outlet (IO) with face plate of color as per site requirement, should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D. All copper Cable and Components should be from same OEM to maintain compatibility and interoperability etc. complete as required.	14	Each	302.00	4228.00	39.15
22	Supplying, Installation, Testing and commissioning of RJ45 Connector for CAT 6/6A Cables. RJ45 modular plug supports 4 twisted pairs, 8 positions, 8 connectors. Housing: PC, UL94V-2, transparent color, Use for 24- 26 AWG stranded wires etc. complete as required.	48	Each	9.00	432.00	39.16

Sl No.	Description of item	Qty.	Unit	Rate	Amount	DSR 2025, MR
23	Supplying, drawing, Testing and commissioning of Cat6A UTP 4 pair, 23 AWG solid copper cable in existing conduit/ on surface, U/FTP, LSZH, NonPlenum, Horizontal (solid) Cable suitable for high speed data networking application supporting upto 10Gbps over a 100 meter channel. The 4 Unshielded Twisted Pairs (UTP) cable with color coded insulation for easy identification should have FLAME PROPERTIES i.e. Flammability Test - IEC 60332-1, Smoke Density - IEC 61034, LSZH standards compliance: ANSI/TIA-568 C.2, ISO/IEC 11801, IEEE 802.3an, RoHS. Delay Skew should be < 45NS. The outer Cable Diameter should be 7.5 + 2 mm. Cable should have been tested and verified by UL/ ETL etc. complete as required.					
23.1	1 Run of cable	150	Mtr	74.00	11100.00	39.18.1
23.2	2 Run of cable	150	Mtr	124.00	18600.00	39.18.2
24	Supplying, Installation, Testing and commissioning of small form-Pluggable (SFP) for Network Switches. Must be hot Pluggable, RoHS Complaint, etc. complete as required.					
24	10 G SFP + Single Mode/Multi Mode	1	Each	14972.00	14972.00	39.6.3
25	Supplying, Installation, Testing and commissioning of following CAT6A Patch Cord should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D etc. complete as required.					
25	Copper Patch Cords of length 1m (3ft)	14	Each	173.00	2422.00	39.13.1
26	Supplying and fixing of following size Wall Mount Rack having Fixed Structure with 0.8mm CRCA Sheet, completely knocked-down condition (CKD) Shape, Vertical Mounting Rail 1.6 mm with 'U'Marking, Minimum 2 cable entry/exit provision at Top and bottom with rubber protection, Front 5mm Toughened Glass with lock, wall mounting kit, Powder coated Color- RAL- 7035, complied with UL & RoHS, 2 x 6 sockets 16A power distribution units, 3 numbers closed cable organizer, Hardware mounting screws packet of 20 x 1 number, etc. complete as required.					
26	6U Rack	1	Each	6939.00	6939.00	39.23.1
27	Supplying Installation Testing and Commissioning of 24 port Cat6 Patch Panel loaded. Must be of 1U height with clear label holders and white label with the panel 24 Ports Cat-6 Patch Panel should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D etc. complete as required.	1	Each	5278.00	5278.00	39.11

Sl No.	Description of item	Qty.	Unit	Rate	Amount	DSR 2025, MR
28	Supplying, installation, Testing and commissioning of following capacity 24 port Layer 2 indoor Network Switch having features and specifications etc. as mentioned here under: At least 24 X RJ-45 Gigabit Ethernet Ports and additional 2 X 10G Base -T with 4 X SFP Ports with non-blocking architecture by having Switching capacity of min. 128 Gbps and packet forwarding rate of 95 Mpps or higher, 16K MAC table. Console Port, USB port, Stacking support of min. 4 units per stack. Internal dual AC Power supply, STP, RSTP, MSTP, BPDU Filter, BPDU Restriction, Min. 9K Jumbo Frame, LBD, IGMP Snooping V1/V2/V3, MLD Snooping V1/V2. IGMP /MLD Groups 1K or more, IPv4/IPv6 Loopback Interface, 16 L3 IP Interface, Ipv6 ND, VRRPv3, UDP Helper, ECMP. VLAN: 802.1Q, Port based, Q-in-Q, Multicast VLAN, Protocol VLAN, VLAN Trunking, DHCP Snooping, Server, server Screening. RADIUS , TACACS+ Authentication, QoS: 802.1P, 8 queues per port, QoS : WRR, Strict+WRR, WRED, 802.1p. ACL: MAC based, IPv4C IPv6, TCP/UDP Port number, time based ACL, TFTP Client, SNMP V1, v2c, v3, SNMP traps, RMON, DHCP server, relay, client, LLDP, LLDP-MED, OAM, Dying Gasp, 802.3ah, sflow, RIP, OSPF v2/v3, policy based route, SSL, SSH. 6 kV surge protection on all Gigabit Ethernet ports and on all GE RJ-45 access ports. Certifications: FCC, CE marked, UL/EN RoHS and relevant MTCTE(TEC)/BIS compliance/certificate as applicable, etc. complete as required.					
28	24 port PoE Layer 2 Network Switch with PoE Support of 370W or higher with each copper port supporting 802.3at PoE+ min.	1	Each	125393.00	125393.00	39.3.1

Sl No.	Description of item	Qty.	Unit	Rate	Amount	DSR 2025, MR
SH-V	(AC SYSTEM)					
29	Supplying, Installation, Testing and Commissioning of Air Cooled Cassette type Air conditioners complete with Indoor unit(IDU), Out door unit (ODU), R-32/R410A/R-407 Green Refrigerant, wireless Remote, inbuilt drain pump, suitable for 400/230V, 50 Hz ,1 /3 phase AC supply, including surface / concealed copper Refrigerant piping with insulation (closed cell elastomeric nitrile rubber tubular pipe section) upto 5.5 Mtr (IDU to ODU), copper power and control cable upto 5.5 Mtr (IDU to ODU) including drain pipe, the system shall be capable of performing cooling, dehumidification, Air circulation, filtration & ventilation of following capacity with Scroll/rotary compressor with min 5 year Original Equipment Manufacturer (OEM) warranty both compressor and Printed Circuit Board (PCB) as specified. The system shall be able to deliver 100% of the rated capacity as per relevant IS Code. The lab testing reports as per IS: 1391 shall be submitted from National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited as per International Electrotechnical Commission (IEC) 17025 standards/Central Power Research Institute (CPRI)/Electrical Research and Development Association (ERDA)with Original Equipment Manufacturer (OEM) etc. complete as per CPWD specification and as per IS: 1391 as required.					
	Inverter Type- Cooling only					
29.1	2.5 TR with 5 Star BEE Rating	2	Each	118123	236246.00	32.4.23
				Total	₹ 771,982.00	

Assistant Engineer (P)
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Executive Engineer
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