

INDIAN INSTITUTE OF TECHNOLOGY KANPUR



Tender Notice No. 129/Elect/2020

SCHEDULE OF QUANTITY

Name of Work: Construction of additional Block near Media Technology Centre at IIT Kanpur. (SH: Electrical works).

| Name of the Contractor | | | | | |
|------------------------|--|--------|-------|---------------------------|--------|
| S. No | Description of Items | Qty | Unit | Rate in Figures in Rupees | Amount |
| 1 | WIRING | | | | |
| | For installation of conduit as the building does not has normal slab it has truss structure. So the cost of necessary arrangements for conduit installation shall be included in point wiring refer CPWD specification clause 4.3.2 ii b. | | | | |
| 1 | Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface / recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required. | | | | |
| 1.1.1 | Group B | 60.00 | Point | | |
| 1.1.2 | Group C | 50.00 | Point | | |
| 1.2 | 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 PVC insulated copper conductor single core cable in surface/ recessed steel conduit, and earthing the point with 1.5 sq. mm FRLS PVC insulated copper conductor single core cable etc. as required. | | | | |
| 1.2.1 | Group C | 30.00 | Point | | |
| 1.3 | Wiring for twin control light point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable in surface /recessed steel conduit, 2 way modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc. as required. | 4.00 | Point | | |
| 1.4 | Supplying and drawing following sizes of FRLS PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required. | | | | |
| 1.4.1 | 2 x 1.5 sq. mm | 400.00 | Meter | | |

| S. No | Description of Items | Qty | Unit | Rate in Figures in Rupees | Amount |
|-------|---|--------|-------|---------------------------|--------|
| 1.4.2 | 3 x 1.5 sq. mm | 200.00 | Meter | | |
| 1.4.3 | 6 x 1.5 sq. mm | 150.00 | Meter | | |
| 1.4.4 | 3 x 4 sq. mm | 600.00 | Meter | | |
| 1.4.5 | 6 x 4 sq. mm | 400.00 | Meter | | |
| 1.4.6 | 3 X 6 Sq.mm | 30.00 | Meter | | |
| 1.4.7 | 3 X 10 Sq.mm | 20.00 | Meter | | |
| 1.4.8 | 6 X 10 Sq.mm | 70.00 | Meter | | |
| 1.4.9 | 6 X 16 Sq.mm | 80.00 | Meter | | |
| 1.5 | Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required. | | | | |
| 1.5.1 | 20 mm | 250.00 | Meter | | |
| 1.5.2 | 25 mm | 300.00 | Meter | | |
| 1.5.3 | 32 mm | 100.00 | Meter | | |
| 1.6 | Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required. | 30.00 | Each | | |
| 1.7 | Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required. | 100.00 | Each | | |
| 1.8 | 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 A & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required. | 50.00 | Each | | |
| 1.9 | Supplying and fixing 20 amps, 240 volts, SPN industrial type, socket outlet, with 2 pole and earth metal enclosed plug top along with 20 amps ' C ' series SP, MCB, in the sheet steel enclosure, on surface or in recess, with chained metal cover for the soc | 30.00 | Each | | |

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|----------|--|---------|-------|---------------------------|--------|
| 1.10 | Supplying and drawing following pair 0.5 mm dia FRLS PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required. | | | | |
| 1.10.1 | 1X2 Pair | 1200.00 | Meter | | |
| 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. | | | | |
| 1.11.1 | Telephone socket outlet | 30.00 | Each | | |
| 1.12 | Fixing, Internet Box of Data box (RJ-45) including brass screw on surface / recessed as reqd. | 100.00 | Each | | |
| 1.13 | Drawing of computer network cable/ PVC insulated flexible cooper/ Aluminium single core cable of size 1.5sqmm to 25 sqmm/ telephone cable upto 10 pair in existing pipe / casing and capping as reqd including numbering the wires at both the ends. | 3000.00 | Meter | | |
| 1.14 | Fixing of telephone DP/network rack (HUB) on wall floor with suitable brick foundation on bolts and nut etc. as reqd. | 2.00 | Each | | |
| 1.15 | Supplying and fixing following size/ modules, GI box alongwith modular base & cover plate for modular switches in recess etc. as required | | | | |
| 1.15.1 | 1 or 2 Module (75 mmX75 mm) | 30.00 | Each | | |
| 1.15.2 | 3 module (100mm x 75mm) | 75.00 | Each | | |
| 1.15.3 | 6 module (200mm x 75mm) | 50.00 | Each | | |
| 2 | DISTRIBUTION BOARDS | | | | |
| 2.1 | Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 volts, 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) | | | | |
| 2.1.2 | 12 Way, double door | 2.00 | Each | | |
| 2.2 | 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) | | | | |

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|----------|--|-------|------|---------------------------|--------|
| 2.2.1 | 6 way (4 + 18), Double door | 1.00 | Each | | |
| 2.2.2 | 8 way (4 + 24), Double door | 4.00 | Each | | |
| 2.3 | Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "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 | | | | |
| 2.3.1 | Single pole | 70.00 | Each | | |
| 2.4 | Supplying and fixing single pole blanking plate in the existing MCB DB complete etc. as required. | 25.00 | Each | | |
| 2.5 | Supplying and fixing following rating, four pole, 415 V, MCB in the existing MCB DB complete with connections, testing and commissioning etc. as required. | | | | |
| 2.5.1 | 40 A-63 A | 6.00 | Each | | |
| 2.6 | Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required. | | | | |
| 2.6.1 | 25 A | 2.00 | Each | | |
| 2.6.2 | 40 A | 2.00 | Each | | |
| 2.6.3 | 63 A | 12.00 | Each | | |
| 2.7 | Supplying and fixing Cable End Box (Loose wire box)(IP 43) suitable for following single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with testing and commissioning etc. as required. | | | | |
| 2.7.1 | For 14 way, Double door SPN MCBDB | 2.00 | Each | | |
| 2.8 | Supplying and fixing Cable End Box (Loose wire box)(IP 43) suitable for following triple pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with testing and commissioning etc. as required. | | | | |
| 2.8.1 | For 6 way, Double door TPN MCBDB | 1.00 | Each | | |
| 2.8.2 | For 8 way, Double door TPN MCBDB | 4.00 | Each | | |
| 3 | SUPPLY OF LIGHT FIXTURES AND FANS | | | | |

| S. No | Description of Items | Qty | Unit | Rate in Figures in Rupees | Amount |
|--------------|---|-------|------|---------------------------|--------|
| 3.1 | Supply of recessed 2'x2' white CRCA powder coated LED luminaire with total system wattage 34/35/36W covered by acrylic diffuser, extruded aluminium housing, prewired electronic driver complete with all accessories suitable for operation on single phase 240V 50Hz AC supply as required. LED shall be SMD type, fixture should have minimum efficacy $\geq 100\text{lm/W}$ and minimum system lumens 3600. | 70.00 | Each | | |
| 3.2 | Supply of surface mounting 2'x2' white CRCA powder coated LED luminaire with total system wattage 34/35/36W covered by acrylic diffuser, extruded aluminium housing, prewired electronic driver complete with all accessories suitable for operation on single phase 240V 50Hz AC supply as required. LED shall be SMD type, fixture should have minimum efficacy $\geq 100\text{lm/W}$ and minimum system lumens 3600. | 4.00 | Each | | |
| 3.3 | Supply of 7/8W Mirror LED Light luminaire. | 10.00 | Each | | |
| 3.4 | Supply of 18 watt recessed type LED luminaire made of CRCA powder coated/ aluminium extruded size 1'X1' full glow having system efficiency. | 20.00 | Each | | |
| 3.5 | Supply of 18 watt LED surface mounted luminaires CRCA powder coated/ aluminium extruded full glow having system efficiency.. | 30.00 | Each | | |
| 3.6 | Supply of 36 watt surface mounted/ceiling suspended with provided kit 4 feet long slim LED light fitting dimensions: 1200 x 300 mm with diffuser etc.as reqd Make (LCPL-36-CDL(1X4) make crompton or equivalent approved make) | 1.00 | Each | | |
| 3.7 | Supply of 1200 mm sweep 230 Volt AC ceiling fan, 3 blade alongwith copper wound stator, Aluminium blades, capacitor, downrod, canopy etc. as required including wiring the downrods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable etc. as required. | 30.00 | Each | | |
| 3.8 | Supply of 300 mm sweep 230 Volt AC size 900/1400 RPM metal body Heavy Duty exhaust fan with guard and mounting arrangement etc. as required | 5.00 | Each | | |
| 4 | INSTALLATIONS OF LIGHT FIXTURES AND FANS | | | | |
| Note: | Necessary arrangements such as fan hook/ clamps etc for installation of ceiling fan shall be provided by the truss manufacturer or shall be the part of civil scope. | | | | |

| S. No | Description of Items | Qty | Unit | Rate in Figures in Rupees | Amount |
|----------|--|--------|------|---------------------------|--------|
| 4.1 | Installation, testing and commissioning of pre-wired, LED fitting with driver/ fluorescent fitting / compact fluorescent fitting of all types, complete with all accessories and tube/lamp etc. directly on ceiling/ wall/ surface, including connections with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required. | 90.00 | Each | | |
| 4.2 | Installation, testing and commissioning of ceiling fan, including wiring the down rods of standard length (upto 30 cm) with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable etc. as required. | 30.00 | Each | | |
| 4.3 | Supplying and fixing extra down rod of 10 cm length G.I. pipe,15 mm dia, heavy gauge including painting etc. as required. (Note: More than 5 cm length shall be rounded to the nearest 10 cm and 5 cm or less shall be ignored) | 20.00 | Each | | |
| 4.4 | Supplying and fixing extra conduit down rod of 20 cm length G.I. pipe 15 mm dia, heavy gauge including painting etc. as required. (Note : More than 5 cm length shall be rounded to the nearest 10 cm and 5 cm or less shall be ignored) | 20.00 | Each | | |
| 4.5 | Supplying and fixing 3 pin, 5 A ceiling rose on the existing junction box/ wooden block including connections etc. as required. | 7.00 | Each | | |
| 4.6 | Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required. | | | | |
| 4.6.1 | Upto 450 mm sweep | 5.00 | Each | | |
| 4.7 | Numbering of ceiling fan/ exhaust fan/ fluorescent fittings as required. | 120.00 | Each | | |
| 5 | ELECTRICAL PANEL & ISOLATION BOX | | | | |

| S. No | Description of Items | Qty | Unit | Rate in Figures in Rupees | Amount |
|-------|---|-----|------|---------------------------|--------|
| | Supplying, installation, testing & commissioning of cubical type MCC Panel IP-42 suitable for 415V, 3Phase, 4 Wire 50 Hz Ac supply system fabricated in compartmentalized (preferably) design from CRCA sheet steel of 2mm thick for frame work and covers, 3mm thick for gland, plates i/c cleaning & finishing complete with 7 tank process for powder coating in approved shade, having extensible type TPN aluminium alloy bus bars of high conductivity, SMC bus bars of high conductivity, SMC bus bar supports, with short circuit withstand capacity of 50kA for 1 Sec., bottom base channel of MS section not less than 100mmx 50mm x 5mm thick, fabrication shall be done in transportable sections, entire panel shall have a common copper earth bar of size 25mm x 5mm at the rear with 2 Nos. earth stud, solid connections from main bus bar to switch gears with required size of Al. bus bars and control wiring with suitable size of PVC insulated copper conductor S/C cable, cable alleys, cable gland plates in two half, i/c providing following switch gears :- | | | | |
| | General Notes for site visit report for Panels before submitting GA. | | | | |
| | The Manufacturer must visit the site before submitting GA drawings and submit a report consisting following: | | | | |
| | Possible height for Panel. | | | | |
| | Possible width for Panel | | | | |
| | Back access will be possible or not. | | | | |
| | Cable entry will be from top or bottom. | | | | |
| | If entry from bottom whether MS. Stand is required or not. | | | | |
| | If the panel is wall mounted whether the wall is available or not. | | | | |
| | Path for movement of transportation of panel is possible or not i.e length, width etc. and the transportation sections | | | | |
| | Sufficient space available at front & back after door opening. | | | | |
| | Sufficient height available above panel for cable drop. | | | | |
| | Actual floor to floor height for rising mains. | | | | |
| | Also, refer to General Notes and Specifications for Panels/ Boards. | | | | |

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|---------------|---|-----|------|---------------------------|--------|
| | Contractor to submit manufacturer's selection charts, Total discrimination charts and curves prove the same, insulation material & corners cover on bus-bars for approval. Feeders should be totally bolted structure with interchangeable feeder. | | | | |
| | All live accessible parts shall be shrouded and all equipment shall be finger touch proof. SMC shrouds bus bar supports shall be used. Padlocking facility shall be provided on all MCCB feeder doors and switch handles shall be lockable in OFF position. | | | | |
| | Sealing Arrangement :- PE Foam Rubber Gasket | | | | |
| | Bus Bars Supports - Non-Hygroscopic, Non Carbonising, Corrosion Resistant, SMC Supports | | | | |
| | 1Set of connector (Phase+Neutral) shall be provided in cable alley for all outgoing with interconnection wires between MCB and Connector. | | | | |
| | Minimum Air Clearances between bus bars shall be as per CPWD specifications | | | | |
| | Panel Power and control Wiring all ZHLS PVC insulated | | | | |
| | AC voltage circuit-1.5 sqmm Red,Yellow,Blue &Black | | | | |
| | Current circuit-1.5 sqmm Red,Yellow,Blue &Black | | | | |
| | AC Control circuit-1.5 sqmm White for Phase & Black for Neutral | | | | |
| | DC Control circuit-2.5 sqmm Grey | | | | |
| | Power circuit- Red,Yellow,Blue for Phase &Black for Neutral | | | | |
| | Labeling- Computerised Laminated Aluminium Name Plate with White letters on Blue/Black Background For Each Feeder and Panel Itself. | | | | |
| | Strip heater with thyristor in each bus-bars section shall be provided in all Panels | | | | |
| Note:- | 1) If mentioned fault and Automatic transfer switch rating is unavailable consider nearby upside rating | | | | |
| | 2) Total Discrimination of system shall be checked and required setting shall be made. If any component required to change will change free of cost. The switch-gear & Panel manufacturer (jointly) will submit discrimination check report duly checked and signed on company letter head. | | | | |

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| 5.1 | ELECTRICAL PANEL-BLOCK- 1 | | | | |
| | Incomer | | | | |
| | 1 Nos. 200A FP MCCB adjustable Thermal & Magnetic based of fault breaking capacity 35KA (Ics=Icu) upto 415V manually operated and with inbuilt S/C, O/C & E/F protection relay , extended rotary handle for door interlock with indications for breaker On/Off with Phase spreaders & Phase Barriers at both sides. | | | | |
| | Metering & indications | | | | |
| | 1 Sets Phase indication LED lamps with 2Amp back up MCB, test terminal block set, circuits as per SLD. | | | | |
| | 1 No. digital multifunction meter suitable to measure voltage, Ampere, Frequency, Power Factor with RS-485 Port with suitable Rasin Cast CTs with each incomer. | | | | |
| | Bus Bars | | | | |
| | FP Aluminium bus bars of minimum of 250Amps capacity with heat shrinkable coloured sleeves and i/c SMC bus bare cross section, size supports & their spacing etc. for withstanding fault level of 25kA for 1 Sec. | | | | |
| | Outgoings | | | | |
| | 3 Nos. 125A 4P 25 kA MCCB | | | | |
| | 3 Nos. 63A 4P 10kA MCB | | | | |
| | 2 Nos. 40A 4P 10kA MCB | | | | |
| | INBUILT DBs | | | | |
| a. | LIGHT DB-L1 GF | | | | |
| | INCOMING | | | | |
| | 1No. 40A 4P 10kA MCB | | | | |
| | SUB INCOMERS | | | | |
| | 3Nos. 40A DP ELCB 30mA | | | | |
| | OUTGOING | | | | |

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|------------|---|-------|-------|---------------------------|--------|
| | 18Nos. 6-32A SP 10kA MCB | | | | |
| b. | POWER DB-P1 GF | | | | |
| | INCOMING | | | | |
| | 1No. 40A 4P 10kA MCB | | | | |
| | SUB INCOMERS | | | | |
| | 3Nos. 40A DP ELCB 30mA | | | | |
| | OUTGOING | | | | |
| | 21Nos. 6-32A SP 10kA MCB | | | | |
| c. | AC DB-AC1 GF | | | | |
| | INCOMING | | | | |
| | 1No. 63A 4P 10kA MCB | | | | |
| | SUB INCOMERS | | | | |
| | 3Nos. 63A DP ELCB 30mA | | | | |
| | OUTGOING | | | | |
| | 15Nos. 6-32A SP 10kA MCB | | | | |
| | 1Nos. Type 2 Surge Protection Device 65kA 4P (Similar to HAGER (SPN465R), ARGOS or Equivalent) with 1No. Red Indicator Light for SPD with 1Set. SPD Back up MCB 4P 63A 10kA including all necessary accessories. | | | | |
| | ELECTRICAL PANEL-BLOCK- 1 as described above | 1.00 | Set | | |
| 6 | 1.1KV L.T. CABLES | | | | |
| 6.1 | SUPPLY OF ALUMINIUM ARMOURED CABLES: | | | | |
| | Supply of following sizes of Power Cables, multi stranded aluminium conductor, XLPE Insulated, cores laid up, PVC tape / Extruded Inner sheathed, Armoured, FRLS at outer sheathed,1100V grade etc. as required | | | | |
| 6.1.1 | 4X 10 sq.mm | 20.00 | Meter | | |
| 6.2.2 | 4 X 16 sq. mm | 30.00 | Meter | | |

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| 6.2.3 | 4 X 25 sq. mm | 150.00 | Meter | | |
| 6.2.4 | 3.5 X 95 sq. mm | 70.00 | Meter | | |
| 6.2.5 | 3.5 X 185 sq. mm | 330.00 | Meter | | |
| 6.3 | Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required. | | | | |
| 6.3.1 | upto 35 sq. mm. | 10.00 | Meter | | |
| 6.3.2 | Above 35 sq. mm and upto 95 sq. mm | 30.00 | Meter | | |
| 6.3.3 | Above 95 sq. mm and upto 185 sq. mm | 200.00 | Meter | | |
| 6.4 | Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required. | | | | |
| 6.4.1 | upto 35 sq. mm. | 10.00 | Meter | | |
| 6.4.2 | Above 35 sq. mm and upto 95 sq. mm | 20.00 | Meter | | |
| 6.4.3 | Above 95 sq. mm and upto 185 sq. mm | 100.00 | Meter | | |
| 6.5 | Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size in the existing RCC/ HUME/ METAL pipe as required. | | | | |
| 6.5.1 | upto 35 sq. mm. | 10.00 | Meter | | |
| 6.5.2 | Above 35 sq. mm and upto 95 sq. mm | 10.00 | Meter | | |
| 6.5.3 | Above 95 sq. mm and upto 185 sq. mm | 30.00 | Meter | | |
| 6.6 | Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size in the existing masonry open duct as required. | | | | |
| 6.6.1 | upto 35 sq. mm. | 10.00 | Meter | | |
| 6.6.2 | Above 35 sq. mm and upto 95 sq. mm | 11.00 | Meter | | |
| 6.6.3 | Above 95 sq. mm and upto 185 sq. mm | 20.00 | Meter | | |

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| 6.7 | Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 kV grade of following size on cable tray as required. | | | | |
| 6.7.1 | Upto 35 sq. mm (clamped with 1mm thick saddle) | 10.00 | Meter | | |
| 6.7.2 | Above 35 sq. mm and upto 95 sq. mm (clamped with 25x3mm MS flat clamp) | 10.00 | Meter | | |
| 6.7.3 | Above 95 sq. mm and upto 185 sq. mm (clamped with 25/40x3mm MS flat clamp) | 10.00 | Meter | | |
| 6.8 | Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 kV grade as required. | | | | |
| 6.8.1 | 4 X 10 sq. mm (25 mm) | 8.00 | Each | | |
| 6.8.2 | 4 X 16 sq. mm (28mm) | 4.00 | Each | | |
| 6.8.3 | 4 X 25 sq. mm (28mm) | 2.00 | Each | | |
| 6.8.4 | 3½ X 95 sq. mm (45mm) | 2.00 | Each | | |
| 6.8.5 | 3½ X 185 sq. mm (57mm) | 8.00 | Each | | |
| | HDPE PIPE | | | | |
| 6.9 | Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. in the existing trench, complete as required. | | | | |
| 6.9.1 | 63 mm dia (OD-63 mm & ID-51 mm nominal) | 14.00 | Meter | | |
| 6.9.2 | 90 mm dia (OD-90 mm & ID-76 mm nominal) | 14.00 | Meter | | |
| 7 | EARTHING SYSTEM | | | | |
| 7.1 | Earthing with GI earth electrode 50mm dia x 3 mtr length including earth enhancing compound (Jam Fill quality product) and PIT cover for earthing pit etc as reqd. (193GI JMV) | 4.00 | Set | | |
| 7.2 | Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required. | 2.00 | Meter | | |
| 7.3 | Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required. | 90.00 | Meter | | |

| S. No | Description of Items | Qty | Unit | Rate in Figures in Rupees | Amount |
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| 7.4 | Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required. | 50.00 | Meter | | |
| 8 | CABLE MANAGEMENT SYSTEM | | | | |
| 8.1 | Supplying and installing following size of perforated painted with powder coating M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts & nuts, painting suspenders etc. as required. | | | | |
| 8.1.1 | 150 mm width X 50 mm depth X 1.6 mm thickness | 20.00 | Meter | | |
| 8.2 | Providing and fixing DLP plastic trunking of size 105 mm x 50 mm without cover on surface as reqd. | 30.00 | Meter | | |
| 8.3 | Providing and fixing 85 mm width flexible cover of DLP plastic trunking. (size 105 mm x 50 mm.) | 30.00 | Meter | | |
| 8.4 | Supply and fixing of following items for plastic trunking accessories suitable for size 105 mm x 50 mm. | | | | |
| 8.4.1 | End cap | 4.00 | Each | | |
| 8.4.2 | Internal angle. | 4.00 | Each | | |
| 8.4.3 | External angle | 4.00 | Each | | |
| 8.4.4 | Flat Junction | 2.00 | Each | | |
| 8.4.5 | Changeable flat angle | 4.00 | Each | | |
| 8.4.6 | Separation partitions | 30.00 | Meter | | |
| 8.4.7 | cover joint | 4.00 | Each | | |
| 8.4.8 | Base joint | 8.00 | Each | | |
| 9 | SAFETY EQUIPMENTS | | | | |
| 9.1 | Providing & fixing in position 1000 mm wide , Electrical Insulating Mats as per IS 15652:2006, 2mm thick, suitable upto 3.3 KV , fire retardant, no effect of acids, alkalies and transformer oils, moisture proof, high tensile strength and texture finish / cloth impression (Anti slip , marking on top) . | 10.00 | RM | | |
| 9.2 | Providing and fixing M.V. danger notice plate of 200 mm X 150 mm, made of mild steel, at least 2 mm thick, and vitreous enameled white on both sides, and with inscription in single red colour on front side as required. | 4.00 | Each | | |

| S. No | Description of Items | Qty | Unit | Rate in Figures in Rupees | Amount |
|-------|--|--------|-------|---------------------------|--------|
| 10 | LIGHTNING CONDUCTOR | | | | |
| 10.1 | Providing and fixing of lightning conductor finial, made of 25 mm dia 300 mm long, G.I. tube, having single prong at top, with 85 mm dia 6 mm thick G.I. base plate including holes etc. complete as required. | 2.00 | Each | | |
| 10.2 | Jointing copper / G.I. tape (with another copper/ G I tape, base of the finial or any other metallic object) by riveting / nut bolting/ sweating and soldering etc. as required. | 75.00 | Each | | |
| 10.3 | Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or on surface of wall for lightning conductor complete as required.(For horizontal run) | 200.00 | Meter | | |
| 10.4 | Providing and fixing G.I. tape 20 mm X 3 mm thick on parapet or on surface of wall for lightning conductor complete as required. (For vertical run) | 45.00 | Meter | | |
| 10.5 | Providing and fixing testing joint, made of 20 mm X 3 mm thick G.I. strip, 125 mm long, with 4 Nos. of G.I. bolts, nuts, chuckn uts and spring washers etc. complete as required. | 4.00 | Each | | |
| 10.6 | Providing and laying G.I. tape 32 mm X 6 mm from earth electrode directly in ground as required. | 30.00 | Meter | | |
| 11 | FIRE ALARM SYSTEM | | | | |
| 11.1 | Supply, installation, testing, commissioning and numbering of microprocessor based 4 zone Fire Alarm panel. The panel shall have a built in power supply and battery charger along with suitable SMF Lead acid batteries capable of running for a minimum of 24 hours and for 2 hours during fire condition etc. complete as required. | 1.00 | Each | | |
| 11.2 | Supply, installation, testing and commissioning of multisensor smoke detector with mounting base on existing ceiling etc. complete as required | 50.00 | Each | | |
| 11.3 | Supplying, installation, testing & commissioning, of hooter 24 V D.C.type high intensity suitable for recessed / surface mounting complete with enclosure as reqd. | 4.00 | Each | | |
| 11.4 | Supply, installation, testing and commissioning of Manual call point etc. complete as required | 4.00 | Each | | |
| 11.5 | Supply, installation, testing and commissioning of response indicator with mounting base (wherever required) etc. complete as required | 30.00 | Each | | |
| | TOTAL Rs. | | | | |