

# GOVERNMENT OF MADHYA PRADESH

URBAN DEVELOPMENT & HOUSING DEPARTMENT



## INTEGRATED STANDARD SCHEDULE OF RATES

[ VOLUME – 4 ]  
ELECTRICAL WORKS



**EFFECTIVE FROM - 2<sup>nd</sup> August 2021**

**DIRECTORATE**  
**URBAN ADMINISTRATION AND DEVELOPMENT**  
PALIKA BHAWAN, SHIVAJI NAGAR, NEAR 6 No. STOP  
BHOPAL, MADHYA PRADESH 462016

## PREFACE

Directorate, Urban Administration and Development under Urban Development and Housing Department, Government of Madhya Pradesh is the State Headquarter for the Urban Local Bodies of the state. Urban Local Bodies undertake various Infrastructure Works such as Water Supply, Sewerage, Tube Well, Building Works, Road Construction, Bridge, Culvert Construction and Electrical works from time to time. An Integrated Standard Schedule of Rates (ISSR) in 4 volumes for (i) Water Supply, Sewerage and Tube well works (ii) Building Works (iii) Road and Bridge Works (iv) Electrical works was issued by the Directorate, Urban Administration and Development, Bhopal on 01<sup>st</sup> June 2011 and the same was revised on 10<sup>th</sup> May 2012.

With the increase in Labour and Commodity Rates, implementation of Integrated Taxation, Goods and Services Tax (GST) and prevalence of new useful products in the market, it has become important to revise the Integrated Standard Schedule of Rates.

Due care has been taken to frame this Integrated Standard Schedule of Rates as correctly as possible. It is, however, possible that some errors might have crept in. In case any error or omission is noticed, the same may be brought to the notice of this office.

Effective suggestion for any correction, addition & alteration is always welcome for any further betterment to this schedule of Rates for Water Supply, Sewerage and Tube well works, Building works, Road and Bridge works and Electrical works.

This Integrated Standard Schedule of Rates is available on the departmental website [www.mpurban.gov.in](http://www.mpurban.gov.in) and shall be effective from 02-08-2021.

Bhopal, 02<sup>nd</sup> August 2021



(G.P. Katare)

Engineer-in-chief

Urban Administration & Development  
Madhya Pradesh, Bhopal

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2. Mr. Deepak Ratnawat, Engineer-in-Chief, Madhya Pradesh Urban Development Company Ltd. Guest Member
3. Mr. Hans Kumar Jain, Chief Engineer, Directorate Urban Administration and Development. Vice Chairman
4. Mr. Suresh Sejkar, Superintending Engineer, Directorate Urban Administration and Development. Member Secretary
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7. Mr. G.S. Saluja, Superintending Engineer, Directorate Urban Administration and Development. Member
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### Special Thanks to:

- Mr. Nikhil Singh, Assistant Engineer, Directorate Urban Administration and Development.
- Ms. Gazal Khanna, Assistant Engineer, Municipal Corporation, Indore
- Mr. Kuldeep Raghuvanshi, Assistant Engineer, Municipal Council, Khurai
- Mr. Avinash Agrawal, Sub Engineer, Directorate Urban Administration and Development.
- Mr. Chandrakishor Suryawanshi, Sub Engineer, Directorate Urban Administration and Development.

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## GENERAL NOTES

- 1 The SOR of UADD Department consists of 4 Volumes :-

VOLUME - I WATER SUPPLY, SEWRAGE AND TUBE WELL WORKS

VOLUME - II Building Works

VOLUME - III Road & Bridge Works

VOLUME - IV Electrical Works

- 2 The contents of each Volume are given below :-

### VOLUME - I

#### WATER SUPPLY, SEWRAGE AND TUBE WELL WORKS

1	Cast Iron Socket & Spigot Pipes and Specials with lead joints.
2	Cast Iron Socket & Spigot Pipes and Specials with Tyton Joints.
3	Cast Iron Pipes and Specials with flanged joints.
4	Ductile Iron Pressure Pipes and Specials with Tyton joints
5	Unplasticized PVC Pipes, PVC-O Pipes & Fittings for potable water supply.
6	Galvanised Iron Pipes, Specials and Gun Metal/Brass Metal Fittings.
7	HDPE Pipes, MDPE Pipe & Specials
8	M.S. Pipes & Specials
9	Asbestos Cement Pressure Pipe and Cast Iron Fittings.
10	Salt Glazed Stoneware Pipes.
11	Unplasticized Non-Pressure Polyvinyl Chloride (PVC-U) Pipes, DWC Pipes.
12	Reinforced Cement concrete Pipes.
13	Bar Wrapped Steel Cylinder Pipes (BWSC)
14	Sluice Gate & Valves
15	Water Hammer Devices
16	Pumps
17	Sewer Appurtenances.
18	Civil Works for Water Supply & Sewerage works.
19	Miscellaneous.
20	Construction of Tube Wells, Chlorination system & Trenchless work
21	Intake Well
22	Water Treatment Plant, Sewage Treatment Plant & Chlorination System
23	Ground Service Reservoir & Sumps Tanks
24	Reinforced Cement Concrete Elevated Service Reservoir (ESR)
25	List of IS Codes for Water Supply & Sanitary Engineering
26	Drawings for Water Supply & Sewerage.

### VOLUME - II BUILDING WORKS

1	Carriage of Material
2	Earth work
3	Mortars
4	Concrete work
5	Reinforced Cement Concrete
6	Brick work

7	Stone work
8	Marble work
9	Wood Work & P.V.C. Work
10	Steel work
11	Flooring
12	Roofing
13	Finishing
14	Repair to Building works
15	Dismantling & Demolishing
16	Pile work
17	Aluminum work
18	Water proofing
19	Form Work
20	Rain Water Harvesting, Recycle and Reuse of waste water
21	Building Water Supply
22	Building Drainage
23	Sanitary Installation

**VOLUME - III  
ROAD & BRIDGES WORKS**

<b>ROAD</b>	
1	Carriage of Material
2	Site Clearance
3	Earth work, Erosion control and Drainage
4	Sub-Bases, Bases (Non-Bituminous) and Shoulders
5	Bases and Surface courses (Bituminous)
6	Cement Concrete Pavements
7	Geosynthetics and Reinforced Earth
8	Traffic Signs, Marking & other Road Appurtenances
9	Supply of Material
10	Maintenance of Roads
11	Horticulture & Landscaping
<b>BRIDGES</b>	
12	Foundations
13	Sub-Structure
14	Super-Structure
15	River Training and Protection works
16	Repair and Rehabilitation

**VOLUME - IV  
ELECTRICAL WORKS**

<b>PART – 1 – INTERNAL ELECTRIFICATION</b>	
1	Wiring in surface /concealed rigid P.V.C. conduit system.
2	Wiring in surface /concealed rigid Steel conduit system.
3	Wiring in surface rigid P.V.C. casing capping system

4	Wiring in existing/conduit/P.V.C. casing capping system
5	Sub Mains in surface/concealed rigid steel conduit system.
6	Rewiring in existing conduit.
7	Control switch gear/Bus bar.
8	MCCB's, Isolators, MCB's, MCB-DB and fixing.
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21	Diesel Generator Set

**General Notes for Volume -IV Electrical works'**

**Internal & External Electrification**

**3 Point Wiring**

- 3.1 Method and type of wiring shall be fully described and measured separately, it shall be classified according to the size and types of cables used.
- 3.2 Concealed conduit work and surface conduit work shall also be classified and described separately the former shall include embedding the conduit and allied fitting in walls, floors etc. during constructions or cutting chases, or both and making good as necessary.
- 3.3 Point wiring shall include all work necessary in complete wiring of a switch circuit of any length from the tapping point on the distribution circuit to the following via a switch:
- (a) Ceiling rose or connector (in case of ceiling and exhaust fan points or stiff pendent).
  - (b) Ceiling rose (in case of pendent points except stiff pendent points).
  - (c) Lamp holder (in case of wall brackets, batten points bulk head fittings and similar other fittings).
  - (d) Call bell or Buzzer (in this case the words "Via the switch" shall be read as "Via the bell push or ceiling rose" as the case may be.
  - (e) Upto Electric Clock outlet.
  - (f) Upto Socket outlet.
- 3.3.1 When there is only one point on the distribution circuit (one way), the same shall be measured in two parts i.e. one as circuit wiring according to the definition of the circuit wiring and the other as "Points" according to the above definition for "Points".

3.3.2 The following shall be deemed to be included in the Point Wiring.

- (a) Rigid steel conduit/rigid PVC non-metallic conduit/HDPE conduit/casing and capping as the case may be, accessories for the same and wiring cables from controlling switch or any other type of switch to the point including earth wire.
- (b) Switch and ceiling rose or connector or batten holder with special and suitable round block for neatly housing the connector as required.
- (c) In case of wall brackets, bulk head fitting and similar fittings, cable as required upto the Lamp Holder
- (d) Bushed conduit or porcelain tubing when cables pass through wall etc.
- (e) All PVC/Metal blocks switch boards and boxes sunk or surface type, with suitable covering, i.e. (Phenolic laminated sheet, modular plate with base frame) including those frame required for mounting fan regulator but excluding those under the distribution board and main control switch, but as specified in schedule of items in this SOR, the boxes and covering shall be included.
- (f) All fixing accessories such as clips, nails, screws, phil plug, rawl plug etc. as required.
- (g) Joint for junction boxes and connecting the same as required.
- (h) Connections to ceiling rose or connector, socket outlet, lamp holder, fan regulator etc.
- (i) Socket outlets as specified.
- (j) Inter connection wiring between points on the same circuits in same switch box or from another.
- (k) connector as required for looping of wiring for two or more wires wherever required.
- (l) Pendants, if provided shall be paid extra.

3.3.3 The mechanical protection to the wiring coming within 1.5 Mtr. from floor level upto switch board shall be deemed to have been included in the item of work. Method of installation and making good the damages shall be described in the specification.

3.3.4 The common bare earth continuity conductor as specified in the schedule of items shall be included in point/circuit wiring or fixing and drawing of all items and green colour PVC insulated Multi strand FR copper wire as earth wire. However, Switch Board with sheet - modular or non-modular type included in the rates of point wiring and switch boards should be selected so as to accommodate atleast similar one switch & socket in future.

3.4 Wiring points shall be classified as follows:

- (a) Short points-not exceeding 3 Mtr. in length.
- (b) Medium points-exceeding 3 Mtr. but not exceeding 6 Mtr. in length.
- (c) Long point-exceeding 6 Mtr. but not exceeding 10 Mtr. in length.
- (d) Extra Long Point-I:- Exceeding 10 Mtr. but not exceeding 15 Mtr. in length.
- (e) Extra Long Point-II Exceeding 15 Mtr. but not exceeding 20 Mtr. in length.
- (f) Extra Long Point-III:- Exceeding 20 Mtr.in length as required.



- 3.4.1 The terms length per point in point wiring in the case of fan points, light points and socket outlet shall mean the distance between the switch and ceiling rose/connector or back plate or lamp holder or socket outlet point depending upon the fitting measured along the run of wiring irrespective of the number of wires in the run, separate measurement may be made where the switches and socket outlet points are located on the same board.
- 3.4.2 In the case of boards with socket outlet point only, the length shall mean the distance between the socket outlet and the tapping point of live wire on the nearest switch board or junction box, as the case may be.
- 3.4.3 Any junction box provided for extending the wiring beyond the point referred to shall not be treated as the nearest tapping point.
- 3.4.4 Light point controlled by two, two way switches shall be measured as two points from fitting to switches on either side and classified according to the length.
- 3.4.5 In case of point with more than one light point controlled by the same switch such points shall be measured in parts i.e. from the switch to the first light point classified as one point and for the subsequent point, the distance from the fitting to fitting shall be measured along the run of wiring classified and treated as equivalent to half the point so derived.
- 3.4.6 In case of call bell/buzzer points, with single call bell/buzzer, controlled by more than one push, the length of point shall be measured in parts, i.e. from the call bell/buzzer to one of the nearest push classified as one point and for the other pushes, the distance from each push to the call bell shall be measured along the run of wiring classified and treated as equivalent to half the point so derived.
- 3.4.7 Where more than one call bell/buzzer points as controlled by the same push, the length of the points shall be measured as in 1.4.5.
- 3.4.8 Same Board socket outlet point means sockets and switches are provided on same board, if another sockets outlets is provided in adjacent switch board upto conduit length of 0.3M away shall be considered on same board. If length of conduits is above 0.3m (i.e. adjacent switch board is away above 0.3m) the point shall be considered as separate socket point.
- 3.4.9 M.S. Boxes will be embedded in wall of all types of wiring.
- 3.4.10 Any wiring should be carried out as per ISI/IS/BIS (emended upto date)
- 3.4.11 Wiring in PVC casing capping should be used in regular/for maintenance work.
- 4 The agency carrying out the work shall certify that the work has been carried out as per statutory or other regulations inforce and prescribed specifications.
- 4.1 The materials and labour involved shall be described and it shall be stated that the materials used are of approved make and as per list attached to the agreement/NIT etc.

- 4.2 Cutting through walls and floors lifting up floor boards and refixing cutting out plaster and making good all the work disturbed, notching or drilling holes through joists etc. shall be deemed to be included with the item of work.
- 4.3 The work shall be strictly carried out in accordance with the detailed layout plan of Electrical installation unless otherwise necessary to be altered due to site conditions during the course of execution.
- 4.4 Completion plans for the installation carried out shall be furnished.
- 4.5 Measurement – Tolerances for areas and cubic contents are applicable only for Civil Works associated with the electrical work:
- (a) Dimension shall be measured to the nearest 0.05 M.
  - (b) Areas shall be worked out in the nearest 0.01 Sqm.
  - (c) Cubic contents shall be worked out to the 0.01 Cum.
- 4.6 The material is to be used as per “List of standard list of electrical material “annexed herewith. However, the competent authority of UADD may further issue the list of electrical material of new Make/model keeping in view the quality and the required specification. In case of non-availability of material as specified in the ‘List of Approved material’ in any particulars are at any point of item, the Engineer-in-Charge may permit the use of material of the different equivalent make/model after taking permission from Higher Authority.
- 4.7 The rates given are for finished complete work. All material, labour, wastage, royalties, lease rent, scaffolding, temporary work, T&P hire charges, breakage, making good any damage to wall, surface, fitting etc. to original finish, transportation, replacement of any defective material, theft pilferage, insurance, variation in market rates etc. are included in the rates, unless specified otherwise. Removal of rubbish, dismantled material, cleaning of work/site is also included in the rates. Rectification of work due to defective/inappropriate materials and or workmanship.
- 4.8 In case of contradiction/conflict in the provisions of this ISSR and UADD specifications, the former will prevail. In situations, where the provisions are not provided or silent in this ISSR the provisions of UADD specification shall apply. However decision of competent authority for Technical sanction shall be final and binding.

## 5 **CIRCUIT WIRING'**

- 5.1 Circuit wiring is to be done in 2.5 sqmm cable. The rate of the earth wire of green colour of 2.5 sqmm copper Multi strand FR to be run inside the same conduit shall be payable separately as per actual measurements. Similarly, green colour earth wire of design size for sub-main shall run inside the same conduit and shall be paid separately. Separate conduit shall be used for point, circuit and sub-main wiring.
- 5.2 In case of exclusive socket outlet points with switch & socket the length of point shall be the distance between the socket outlet and the tapping point of live wire in the nearest distribution or sub distribution board and hence no separate measurement need be taken for circuit wiring or for earth continuity conductor.
- 5.3 Except as described above different types of wiring shall be measured separately and given in running meters. The length shall be the actual length of wiring installed and the number and size of cables shall be stated.
- 5.4 The length of sub mains, circuit wiring or any other type of wiring on linear basis shall include all lengths from end to end of casing and capping, conduits as the case may be exclusive of inter connections inside the switch board etc. The increase on account of division or slackness shall not be included in the measurements.
- 5.5 Modular accessories, and (non-modular), have been given accordingly.
- 5.6 The rewirable based SFUs and fuses are to be used.
- 5.7 MCB DBs of double door of sheet metal only are to be used and are included. MCBs of "C" curve type are to be used and rates have been accordingly provided.
- 5.8 Energy saver ceiling fans confirming to IS : 374 (update) with amended upto date are to be used. Provision for step type electronic regulator has been made and payable separately.
- 5.9 In addition to conventional energy saver CFL fitting and lamps are introduce.
- 5.10 Only Copper conductor (ICPCI approved) multi-strand cable with PVC Insulated Fire Retardant (FR) having minimum oxygen index value 29% is to be used.
- 5.11 Fixing and drawing of all items and green colour PVC insulated Multi strand FR copper wire as earth wire. However, Switch Board with sheet-modular or non-modular type is not included in the rates of point wiring and shall be paid separately and switch boards should be selected so as to accommodate atleast similar one switch & socket in future.
- 5.12 Fire extinguishers required for panel/sub-stations have been included.

## 6 **CABLES**

Cables shall be classified according to their voltage, materials, size and type of insulation armoring etc. Each type of cable shall be described and measured separately.

- 6.1 The length measured shall be actual length fixed or laid including connections upto switch for all cables other than paper insulated, lead covered cables and upto the entry point of cable end box of PILC cables.
- 6.2 The method of laying and the type of jointing shall be fully described.
- 6.3 Cables shall be described and given in running meters. Terminal and joint boxes of various type shall be enumerated and measured separately according to their type and size.
- 6.4 The mechanical protection for cables laid in walls or floor or underground shall be measured separately.
- 6.5 4.5 manholes shall be described and enumerated separately.

## 7 **EARTHING'**

- 7.1 The object of an earthing system is to provide as nearly as possible a system of conductors at a uniform potential and as nearly zero or absolute earth potential as possible. The purpose of this is to ensure that in general all parts of apparatus other than live parts shall be at earth potential as well as to ensure that persons coming in contact with it shall be at earth potential at all times,

### 7.2 **'System Earthing'**

Earthing associated with current carrying conductor is normally essential to the security of the system and is generally known as system earthing.

### 7.3 **'Equipment Earthing'**

Earthing of non-current carrying metal work and conductor is essential to the safety of human life, of animals and or property and is generally known as equipment earthing.

As far as possible all earth connections shall be visible for inspection and shall be carefully made; if they are poorly made or inadequate the purposed for which they are intended, loss of life and property or serious personal injury may result. Earthing shall conform to the follow specifications. For other details not covered in this specification IS : 3043 – 1987 shall be referred to.

For checking the efficiency of earthing, the following tests are done.

- (a) The earth resistance of each electrode shall be measured.
- (b) Earth resistance of earthing grid shall be measured.
- (c) All electrodes shall be connected to the grid and the earth resistance of the entire earthing system shall be measured.

These tests shall preferably be done during the summer months.

- 8 Safety measures shall be followed as per IS Code 4770-1991 and IS 5424 - 1969 (Update)
- 9 Work shall be carried out by License holder Electrician/wireman registered from licensensing board.
- 10 The items and rates taken in this SCHEDULE OF RATES are for finished items of work covering all materials, required labour, wastage, temporary work, tools, plants, overhead charges, lead and lifts, transportation, cleaning of obstacles if any, required to complete the work unless otherwise specified.

- 11.1 Rates of the different pipes, specials & fittings, jointing materials, steel, cement and other materials have been taken excluding General Goods and Services Tax all the rates are FOR Bhopal.
- 11.2 At present for works GST Rate is payable to the contractor @ 12% of the bill amount and whenever any changed in GST is applied by the Govt. of India, M.P. State Govt. same shall be applied and payable to the contractor for his bill amount after taking permission from Commissioner Urban Administration and Development Department.
- 11.3 This GST Rate may change according to the Govt. of India, Govt. Madhya Pradesh, Finance Department Revision from time to time but it will be in force after due sanctioned of the Commissioner Urban Administration Development Department.
- 12 For technical specification, the I.E. rules 1956, Indian Electricity Act 1910, relevant IS codes with upto date amendments and Technical Specification (if enclosed) will be applicable unless otherwise specified.
- 13 While taking the measurement of overhead line conductor, 3% sag will be added in straight length.
- 14 The Tender form will be issued to the contractors having "A" class electrical contractor's valid license from M.P. Electrical Licensing Board, Govt. of M.P., and registered in appropriate category of M.P. departments as per N.I.T. conditions, unless otherwise specified.
- 15 The layout plan for External electrification shall be got approved from concerning authority of UADD and will be supplied to the contractor for execution.
- 16 All materials, fitting appliances etc. used in installation work shall be as per approved list of Deptt.
- 17 All materials will be confirming to relevant IS specifications wherever they exist.
- 18 Before inviting the tenders following special condition be added in notice inviting tender drafts:
  - (a) The contractor will be responsible for submitting the guarantee certificates for a period of 24 months from the date of charging, and handing over of installation to the Deptt. for Transformer, Circuit breaker and other equipment and accessories.
  - (b) The contractor shall submit the bill of purchase of materials, Test Certificate etc. and Excise gate passes (wherever required) before making payment.
  - (c) The contractor shall be responsible for arranging inspections of authorities of Electricity Board, Electrical Licenising Board and other local bodies, getting approval of layouts, drawings, installation from them and to submit the required document, charging certificate etc. to MP UADD.
  - (d) No final payment will be made till the lines are handed over to the Urban Local Body / department.
  - (e) 5% of cost of transformer and VCBs will be kept in miscellaneous deposits till the same is taken over by MP Electricity Board/Depositor. In addition to above 2% of total cost of work will be kept in Misc. deposit till the lines are taken over by the deptt.
  - (f) The contractor will be responsible for taking shutdown required from MPEB for execution and commissioning of work at his own risk & cost.
  - (g) The contractor shall make his own arrangements of water supply, site office, store and electricity at site for execution of work.

(h) The contractor shall be responsible for a period of 24 months for any loss/theft, if caused to the lines, sub-station and other materials from the date of charging and handing over the lines to the UADD.

(i) During the guarantee period of two years, 5% (Five Percent) amount of total value of work done shall be retained by the Deptt. Or the contractor shall have to give Bank guarantee/FDR of the said amount in favour of UADD.

(j) TransformerVCBs and associated items will be inspected/tested as per IS specification by M.C. before dispatch of materials at works. The above items will be accepted subject to the above qualifying.

- 19 The labour rates adopted for preparation of S.O.R. are inclusive of provision for weekend holiday.
- 20 The rates for completed items in the schedule of rates include the T&P, Over head Charges and Contractor's Profit.
- 21 Items regarding civil works shall be taken and executed on the basis of rates of respective current Civil UADD SOR.

<b>CHAPTER -1 to 8</b>	
<b>Wiring, Control Switch gear/Bus bar, MCCB's, Isolators and fixing</b>	
<b>1</b>	<b>General</b>
	(a) Rates include all lead and lift, for all materials, for all items, unless otherwise specified.
	(b) The provision of scaffolding or ladder or any tools and plants required-shall be deemed to be included in the items, unless otherwise stated.
	(c) Excavation for poles, underground cables, concreting in foundations, painting of poles, struts etc, shall be measured separately.
	(d) Cutting through walls and floors, lifting up floor boards and re-fixing, cutting out plaster and making good all the work disturbed, notching or drilling holes through joists, etc., shall be deemed to be included with the item of work.
<b>2</b>	<b>Point Wiring : -</b>
	(a) Concealed conduit work shall include embedding the conduit and allied fittings in walls, floors etc., during construction or cutting chases, or both and making goods and necessary.
	(b) The work shall be strictly carried out in accordance with the detailed layout plan of electrical installation, unless otherwise necessary to be altered due to site conditions during the course of execution.
	(c) Completion plans for the installation carried out shall be furnished.
	(d) Point wiring shall include all work necessary to complete wiring of a switch circuit of any length from the tapping point on the distribution circuit to the following Via the switch:
	(i) Ceiling rose or connector (in case of ceiling and exhaust fan points or stiff pendant);
	(ii) Ceiling rose (in the case of pendant point except stiff pendant points);
	(iii) Socket outlet (in. the case of socket outlet points);
	(iv) Lamp holder(in the case of wall bracket(s), button points, bulb head fittings and similar other fittings.
	(v) Call bell or buzzer (in this case the words 'Via the switch' shall be read as 'via the bell push or ceiling rose as the case may be')
	(vi) Upto electric clock outlet.
	(e) Switches
	(i) When measured separately from point wiring, the switches shall be described stating the type and rated capacity. Cover plates, if any, shall be included with the item.
	(ii) Switch plug combination, comprising socket outlet, switch and plug shall be described, and the type and rated capacity shall be stated.
	(e) When there is only one point on the distribution circuit (one way) the same shall be measured in two parts, one circuit wiring according to the definition of the circuit wiring and the other points according to the above definition for points.
	(f) The following shall be deemed to be included in the point wiring :-
	(i) Switch and ceiling rose of connector with special and suitable round block for neatly housing the connector as required;
	(ii) In the case of wall brackets, bulkhead fittings and similar fittings, cable as required up to the lamp holder
	(iii) Bushed conduit or porcelain tubing when cables pass through walls etc.;
	(iv) Earth wire from 3-pin socket point to the common earth including connections to the earth pin of 3-pin socket outlet except the earth wire from the first tapping point of live wire to the sub-distribution board;

	(v) All wood or metal blocks, boards and boxes, sunk or surface type, with suitable covering, including those required, for mounting fan regulator but excluding those under the distribution board and main control switch
	(vi) All fixing accessories such as clips, nails, screws, phil plugs, rawl plugs, wooden plugs etc. as required.
	(vii) Joint for junction boxes and connecting the same as required and
	(viii) Connections to ceiling rose or connector, socket outlet, lamp holder, switch fan regulator, etc.
	(g) The mechanical protection provided to the wiring coming within 1.5 m. from floor level or up to switchboard shall be deemed to have been included in the item of work. Method of installation and making good the damages shall be described in the specification.
	(h) Wiring points shall be classified as follows :-
	(i) Short points not exceeding 3 m. in length.
	(ii) Medium points exceeding 3 m. but not exceeding 6 m. in length.
	(iii) Medium points exceeding 3 m. but not exceeding 6 m. in length.
	Special points of length exceeding 10m in length as required.
	(i) The terms "Length per point" in point wiring in the case of fan points, light points and socket outlets shall mean the distance between the switch and ceiling rose, connector or back plate, lamp holder or socket-outlet point depending upon the fitting measurement along the run of wiring irrespective of the number of wires in the run. Separate measurement may be made where the switches and socket outlet points are located on the same board.
	(j) In case of boards with socket-outlet point only, the length shall mean the distance between the socket-outlet and the tapping point of live wire on the nearest switch board or junction box, as the case may be.
	(k) Any junction box provided for extending the wiring beyond the point referred to, shall not be treated as the nearest tapping point.
	(l) Special-points such as staircase lighting, group control, etc., shall be specified separately and so measured.
	(m) A light point controlled by two, Two-way switches shall be measured as two points from the fittings to switches on either side and classified according to the "length". Any extra light point in the same circuit shall be considered as given below in (n)
	(n) In case of points with more than one light point controlled by the same switch, such points shall be measured in parts; i.e. from the switch to the first light point classified as one point and for the subsequent point, the distance from the fitting to fitting shall be measured along the run of wiring classified and treated as equivalent to half the point so derived.
	(o) In case of call-bell/buzzer controlled by more than one push, the length of point shall be measured in parts i.e. from the call bell/buzzer to one of the nearest pushes classified as one point and for the other pushes, the distance from each push to the call-bell shall be measured along the run of wiring classified and treated as equivalent to half the point so derived.
	(p) Where more than one call-bell/buzzer points are controlled by the same push, the length of the points shall be measured as enumerated in 2 (n).
3	<b>Circuit Wiring :-</b>
	(a) Length of wiring from the distribution board of sub-distribution board up to the tapping point of the first point, that is, up to first switch board shall be considered as circuit wiring The length of circuit wiring with two wires shall be measured from the distribution or sub-distribution board to the first switch board in the circuit irrespective of whether the neutral conductor goes into the switch box or not. The earth wire from the distribution or sub-distribution board up to the first tapping point shall be measured separately.
	(b) In case of exclusive socket outlet circuits such as wiring points for power plugs, the length of
	(c) The lengths of sub-main, circuit wiring or any other type of wiring on linear basis shall include all
4	<b>Cables –</b>



	(a) Cables shall be classified according to their voltage, materials, size and type of insulation, armouring, etc. Each type of cable shall be described and measured separately.
	(b) The length measured shall be actual length fixed or laid including connections up to switch for all cables other than paper-insulated, lead-covered cables and up to the entry point of cables en-box of PILC cables.
	(c) Cables shall be described and given in running Meters. Terminal and joints boxes of various types shall be enumerated and measured separately according to their size and type.
	(d) The mechanical protection for cables on walls or floors or underground shall be measured separately and the description shall include the necessary excavation, method of installation and making good damages to the original finish.
	(e) Manholes shall be described and enumerated separately.
5	Power wiring shall be done in steel conduit system.

**The following Indian Standards may be referred to :- Chapter 1 to 8**

S.No.	Standards	Title Codes of Practice/ Guide
1	IS:732-1989	Code of practice for electrical wiring installation
2	IS:4648-1968	Guide for electrical layout in residential buildings.
3	IS:8061-1976	Code of practice for design, installation and maintenance of service lines upto and including 650 V.
4	IS:8884-1978	Code of practice for installation of electric bells and call system.
5	IS:5578-1985	Guide for marking of insulated conductor.
6	IS:11353-1985	Guide for uniform system of marking and identification of conductors and apparatus terminals.
7	IS:5728-1970	Guide for short circuit calculations.
8	IS:7752 (Part-1)-1975	Guide for improvement of power factor in consumer installation Low and medium supply voltage.
9	IS:10118(Part-1)-1982	Code of practice for selection, installation and maintenance of switch gear and control gear General.
10	IS:10118(Part-2)-1982	Code of practice for selection, installation and maintenance of switch gear and control gear selection.
11	IS:10118(Part-3)-1982	Code of practice for selection, installation and maintenance of switch gear and control gear installation.
12	IS:10118(Part-4)-1982	Code of practice for selection, installation and maintenance of switch gear and control gear maintenance.
13	IS:5216(Part-1)-1982	Guide for safety procedures and practices in electrical work General.
14	IS:4237-1983	General requirements for switch gear and control gear for voltages not exceeding 1000 V AC or 1200 V DC.
15	IS:6875(Part-1)-1973	Control switches (switching devices control and auxiliary circuits including contractor relays) for voltages upto and including 100 V AC and 1200 V DC : General requirements and tests.
16	IS:6875(Part-2)-1973	Control switches (switching devices for control and auxiliary circuits including contactor relays) for voltages upto and including 1000 V AC and 1200 V DC : Part 2 Push button and related control switches (Amendment 2).
17	IS:6875(Part-3)-1983	Control switches (switching devices for control and auxiliary circuits including contactor relays) for voltages upto and including 1000 V AC and 1200 V DC: Rotary control switches.
18	IS:2675-1983	Enclosed distribution fuse boards and cutouts for voltages not exceeding 1000V.

19	IS:8828-1978	Miniature air break circuit breakers for voltages not exceeding 1000 volt.
20	IS:13032-1991	Miniature circuit breaker boards for voltages upto and including 1000 volts AC.
21	IS:12610-1988	Residual current operated circuit breakers.
22	IS:2516(Part-1/Sec.1 1985)	Circuit breakers: Requirements and test voltages not exceeding 1000 V AC or 1200 V DC.
23	IS:8623(Part1)-1977	Factory built assemblies of switch gear and control gear for voltages upto and including 1000 V AC and 1200 V DC: General requirements.
24	IS:8623(Part-2)-1980	Factory built assemblies of switch-gear and control gear for voltages upto and including 100 V AC and 1200 V DC: Particular requirements for bus bar trunking system (bus ways).
25	IS:694-1990	PVC insulated cables for working voltages upto and including 1100 V/
26	IS:3964(Part-2)-1968	Recommended current ratings for cables PVC insulated light duty cables.
27	IS:1289(Part-1)-1984	Flexible cables for lifts and other flexible connections : Elastomer insulated cables.
28	IS:9537(Part-1)-1980	Conduits for electrical installations: General requirements.
29	IS:9537(Part-2)-1981	Conduits for electrical installations: Rigid steel conduits
30	IS:3480-1966	Flexible steel conduits for electrical wiring.
31	IS:2667-1988	Fittings for rigid steel conduits for electrical wiring.
32	IS:3837-1976	Accessories for rigid steel conduits for electrical wiring.
33	IS:9537(Part-4)-1983	Conduits for electrical installation : Pliable self recovering conduits for insulating materials.
34	IS:6946-1973	Flexible (pliable) non-metallic conduits for electrical installations.
35	IS:3419-1989	Fittings for rigid non-metallic conduits.
36	IS:5133(Part-1)-1969	Boxes for enclosure of electrical accessories: Steel and cast iron boxex.
37	IS:5133(Part-2)-1969	Boxes for enclosure of electrical accessories : Boxes made of insulating materials.
38	IS:2412-1975	Like clips for electrical wiring.
39	IS:371-1979	Ceiling roses.
40	IS:3854-1988	Switches for domestic and similar purposes.
41	IS:4615-1968	Switch socket outlets (non-interlocking type).
42	IS:4160-1967	Interlocking switch socket outlet.
43	IS:1293-1988	Plugs and socket outlets of rated voltage upto and including 250 volts and rated current upto and including 16 Amperes.
44	IS:2551-1982	Danger notice plates.
45	IS:2448 (Part-1)-1963	Adhesive insulating tapes for electric purposes: Tapes with cotton textile subtraction.
46	IS:4770-1991	Rubber gloves for electrical purposes.
47	IS:5424-1969	Rubber mats for electrical purposes. (xv)
<b>Note:- The above IS Codes shall be applicable with latest amendments if any.</b>		

**CHAPTER -1**

**WIRING IN SURFACE / CONCEALED RIGID P.V.C. CONDUIT SYSTEM**

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
1.1	Point Wiring in surface rigid P.V.C. conduit system with Flush type Accessories.		
	Point wiring including metallic switch box, sheet, switches, sockets, lamp holders/ceiling roses etc with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C. conduit (MMS) ISI Marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit including painting etc. as required as per specification for :-		
1.1.1	Light Point/Fan Points.		
	a) Short point	Each	330.00
	b) Medium point	Each	635.00
	c) Long point	Each	988.00
1.1.2	3 Pin 6 Amp socket outlet on Separate Board		
	a) Short point	Each	330.00
	b) Medium point	Each	635.00
	c) Long point	Each	988.00
1.1.3	Call Bell / Buzzer Points		
	a) Short point	Each	330.00
	b) Medium point	Each	635.00
	c) Long point	Each	988.00
1.1.4	Twin Control light points		
	a) Short point	Each	330.00
	b) Medium point	Each	635.00
	c) Long point	Each	988.00
1.1.5	Point wiring including metallic switch box, sheet, switches, sockets for 3 pin 6 Amp. Socket outlet point with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C. conduit (MMS) ISI marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit with required materials as per specification on same board.	Each	204.00
1.1.6	Circuit Wiring		
	Wiring for circuit wiring with PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C. conduit (MMS) of ISI marked suitable size including painting etc. as required as per specification		
	a) 2x2.5 Sq.mm.	meter	109.00
	b) 4x2.5 Sq.mm.	meter	135.00
	c) 6x2.5 Sq.mm.	meter	127.00
	d) 8x2.5 Sq.mm.	meter	193.00

S.No.	Description of Items	Unit	Rates (in Rs.)
1.2	Point Wiring in surface rigid P.V.C. conduit system with Modular		
	Point wiring including metallic switch box, sheet, switches, sockets, lamp holders/ceiling roses etc with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C. conduit (MMS) ISI Marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit including painting etc. as required as per specification for :-		
1.2.1	Light Point/Fan Points.		
	a) Short point	Each	360.00
	b) Medium point	Each	665.00
	c) Long point	Each	1018.00
1.2.2	3 Pin 6 Amp socket outlet on Separate Board		
	a) Short point	Each	398.00
	b) Medium point	Each	703.00
	c) Long point	Each	1056.00
1.2.3	Call Bell / Buzzer Points		
	a) Short point	Each	374.00
	b) Medium point	Each	685.00
	c) Long point	Each	1041.00
1.2.4	Twin Control light points		
	a) Short point	Each	378.00
	b) Medium point	Each	724.00
	c) Long point	Each	1127.00
1.2.5	Point wiring including metallic switch box, sheet, switches, sockets for 3 pin 6 Amp. Socket outlet point with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C. conduit (MMS) ISI marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit with required materials as per specification on same board.	Each	244.00
1.3	WIRING IN CONCEALED RIGID PVC CONDUIT (HEAVY DUTY) SYSTEM WITH FLUSH TYPE ACCESSORIES		
	Point wiring including metallic switch box, sheet, switches, sockets, lamp holders/ceiling roses etc with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in concealed rigid P.V.C. conduit (HMS) ISI Marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit including painting etc. as required as per specification for :-		
1.3.1	Light Point/Fan Points.		
	a) Short point	Each	480.00
	b) Medium point	Each	932.00
	c) Long point	Each	1435.00
1.3.2	3 Pin 6 Amp socket outlet on Separate Board		
	a) Short point	Each	480.00
	b) Medium point	Each	932.00
	c) Long point	Each	1435.00
1.3.3	Call Bell / Buzzer Points		
	a) Short point	Each	480.00
	b) Medium point	Each	938.00

S.No.	Description of Items	Unit	Rates (in Rs.)
	c) Long point	Each	1445.00
1.3.4	Twin Control light points		
	a) Short point	Each	515.00
	b) Medium point	Each	1008.00
	c) Long point	Each	1561.00
1.3.5	Point wiring including metallic switch box, sheet, switches, sockets for 3 pin 6 Amp. Socket outlet point with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in concealed rigid P.V.C. conduit (HMS) ISI marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit with required materials as per specification on same board.	Each	164.00
1.3.6	Circuit Wiring		
	Wiring for circuit wiring with PVC insulated cable FR with copper multi strand conductor ISI marked in concealed rigid P.V.C. conduit (HMS) of ISI marked suitable size including painting etc. as required as per specification		
	a) 2x2.5 Sq.mm.	meter	124.00
	b) 4x2.5 Sq.mm.	meter	166.00
	c) 6x2.5 Sq.mm.	meter	205.00
	d) 8x2.5 Sq.mm.	meter	245.00
1.4	WIRING IN CONCEALED RIGID PVC CONDUIT (HEAVY DUTY) SYSTEM WITH MODULER ACCESSORIES		
	Point wiring including metallic switch box, sheet, switche, socket, lamp holders/ceiling roses etc with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in concealed rigid P.V.C. conduit (HMS) ISI Marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit including painting etc. as required as per specification for :-		
1.4.1	Light Point/Fan Points.		
	a) Short point	Each	511.00
	b) Medium point	Each	963.00
	c) Long point	Each	1466.00
1.4.2	3 Pin 6 Amp socket outlet on Separate Board		
	a) Short point	Each	549.00
	b) Medium point	Each	1001.00
	c) Long point	Each	1504.00
1.4.3	Call Bell / Buzzer Points		
	a) Short point	Each	524.00
	b) Medium point	Each	982.00
	c) Long point	Each	1488.00
1.4.4	Twin Control light points		
	a) Short point	Each	528.00
	b) Medium point	Each	1021.00
	c) Long point	Each	1574.00

S.No.	Description of Items	Unit	Rates (in Rs.)
1.4.5	Point wiring including metallic switch box, sheet, switch, socket for 3 pin 6 Amp. Socket outlet point with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in concealed rigid P.V.C. conduit (HMS) ISI marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit with required materials as per specification on same board.	Each	244.00
1.5	<b>POWER WIRING IN SURFACE RIGID P.V.C.CONDUIT (HEAVY DUTY) SYSTEM WITH FLUSH TYPE ACCESSORIES</b>		
	Point wiring including metallic switch box, sheet, for 3 Pin 16 Amp. Socket Outlet Point With 4 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C.Conduit (HMS) ISI Marked of suitable size including painting etc. with 16 Amp. F.T. Switch & Socket / S.S.Combined 16 Amp. of ISI Marked and 4 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit as per specification for :-		
1.5.1	On Separate Board		
	A. Short Point	Each	579.00
	B. Medium Point	Each	1005.00
	C. Long Point	Each	1498.00
	D. Extra Long -I	Each	1918.00
	E. Extra Long -II	Each	2860.00
	F. Extra Long -III	Each	3590.00
1.5.2	Same board socket 16 Amp	Each	390.00
1.5.3	<b>POWER WIRING IN SURFACE RIGID P.V.C.CONDUIT (HEAVY DUTY) SYSTEM WITH MODULAR ACCESSORIES</b>		
	Point wiring including metallic switch box, sheet, for 3 Pin 16 Amp. Socket Outlet Point With 4 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C.Conduit (MMS) ISI Marked of suitable size including painting etc. with 16 Amp. F.T. Switch & Socket / S.S.Combined 16 Amp. of ISI Marked and 4 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit as per specification for :-		
	On Separate Board		
	A. Short Point	Each	601.00
	B. Medium Point	Each	1027.00
	C. Long Point	Each	1520.00
	D. Extra Long -I	Each	1675.00
	E. Extra Long -II	Each	2882.00
	F. Extra Long -III	Each	3612.00
1.5.4	Same board socket 16 Amp	Each	382.00

**CHAPTER - 2**

**WIRING IN SURFACE / CONCEALED RIGID STEEL CONDUIT SYSTEM**

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
2.1	Wiring in surface rigid steel conduit system with Flush Type Accessories.		
	Point wiring including metallic switch box, sheet, switch, socket, lamp holders/ceiling roses etc. with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in surface rigid steel conduit ISI Marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit including painting, etc. as required as per specification for :-		
2.1.1	Light Point/Fan Points.		
	a) Short point	Each	408.00
	b) Medium point	Each	820.00
	c) Long point	Each	1298.00
2.1.2	3 Pin 6 Amp socket outlet on Separate Board		
	a) Short point	Each	408.00
	b) Medium point	Each	820.00
	c) Long point	Each	1297.00
2.1.3	Call Bell / Buzzer Points		
	a) Short point	Each	408.00
	b) Medium point	Each	826.00
	c) Long point	Each	1307.00
2.1.4	Twin Control light points		
	a) Short point	Each	443.00
	b) Medium point	Each	896.00
	c) Long point	Each	1423.00
2.1.5	Point wiring including metallic switch box, sheet, switch, socket for 3 pin 6 Amp. Socket outlet point with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in surface rigid steel conduit ISI marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit with required materials as per specification on same board	Each	207.00
2.1.6	Circuit Wiring		
	a) 2x2.5 Sq.mm.	meter	170.00
	b) 4x2.5 Sq.mm.	meter	221.00
	c) 6x2.5 Sq.mm.	meter	259.00
	d) 8x2.5 Sq.mm.	meter	296.00
2.2	WIRING IN SURFACE RIGID STEEL CONDUIT SYSTEM WITH MODULAR ACCESSORIES		
	Point wiring including metallic switch box, sheet, switch, socket, lamp holders/ceiling roses etc with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in surface rigid steel conduit ISI Marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit including painting, etc. as required as per specification for :-		

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
2.2.1	Light Point/Fan Points.		
	a) Short point	Each	438.00
	b) Medium point	Each	850.00
	c) Long point	Each	1328.00
2.2.2	3 Pin 6 Amp socket outlet on Separate Board		
	a) Short point	Each	476.00
	b) Medium point	Each	888.00
	c) Long point	Each	1366.00
2.2.3	Call Bell / Buzzer Points		
	a) Short point	Each	451.00
	b) Medium point	Each	870.00
	c) Long point	Each	1350.00
2.2.4	Twin Control light points		
	a) Short point	Each	486.00
	b) Medium point	Each	939.00
	c) Long point	Each	1467.00
2.2.5	Point wiring including metallic switch box, sheet, switch, socket for 3 pin 6 Amp. Socket outlet point with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in surface rigid steel conduit ISI marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit with required materials as per specification on same board	Each	244.00
2.3	<b>WIRING IN CONCEALED RIGID STEEL CONDUIT SYSTEM WITH FLUSH TYPE ACCESSORIES</b>		
	Point wiring including metallic switch box, sheet, switch, socket, lamp holders/ceiling roses etc with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Concealed rigid steel conduit ISI Marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit including painting, etc. as required as per specification for :-		
2.3.1	Light Point/Fan Points.		
	a) Short point	Each	558.00
	b) Medium point	Each	1117.00
	c) Long point	Each	1745.00
2.3.2	3 Pin 6 Amp socket outlet on Separate Board		
	a) Short point	Each	558.00
	b) Medium point	Each	1117.00
	c) Long point	Each	1745.00
2.3.3	Call Bell / Buzzer Points		
	a) Short point	Each	558.00
	b) Medium point	Each	1123.00
	c) Long point	Each	1754.00
2.3.4	Twin Control light points		
	a) Short point	Each	593.00
	b) Medium point	Each	1193.00



S.No.	Description of Items	Unit	Rates (in Rs.)
	c) Long point	Each	1871.00
2.3.5	Point wiring including metallic switch box, sheet, switch, socket for 3 pin 6 Amp. Socket outlet point with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Concealed rigid steel conduit ISI marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit with required materials as per specification on same board	Each	164.00
2.3.6	Circuit Wiring		
	Wiring for circuit wiring with PVC insulated cable FR with copper multi strand conductor ISI marked in Concealed rigid steel conduit of ISI marked suitable size including painting etc. as required as per specification		
	a) 2x2.5 Sq.mm.	meter	171.00
	b) 4x2.5 Sq.mm.	meter	224.00
	c) 6x2.5 Sq.mm.	meter	263.00
	d) 8x2.5 Sq.mm.	meter	303.00
2.4	WIRING IN CONCEALED RIGID STEEL CONDUIT SYSTEM WITH MODULAR ACCESSORIES		
	Point wiring including metallic switch box, sheet, switch, socket, lamp holders/ceiling roses etc with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Concealed rigid steel conduit ISI Marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit including painting, etc. as required as per specification for :-		
2.4.1	Light Point/Fan Points.		
	a) Short point	Each	588.00
	b) Medium point	Each	1147.00
	c) Long point	Each	1775.00
2.4.2	3 Pin 6 Amp socket outlet on Separate Board		
	a) Short point	Each	626.00
	b) Medium point	Each	1185.00
	c) Long point	Each	1813.00
2.4.3	Call Bell / Buzzer Points		
	a) Short point	Each	602.00
	b) Medium point	Each	1167.00
	c) Long point	Each	1798.00
2.4.4	Twin Control light points		
	a) Short point	Each	606.00
	b) Medium point	Each	1206.00
	c) Long point	Each	1884.00

S.No.	Description of Items	Unit	Rates (in Rs.)
2.4.5	Point wiring including metallic switch box, sheet, switch, socket ) for 3 pin 6 Amp. Socket outlet point with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Concealed rigid steel conduit ISI marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit with required materials as per specification on same board	Each	244.00
2.5	<b>POWER WIRING IN SURFACE RIGID STEEL CONDUIT SYSTEM WITH FLUSH TYPE ACCESSORIES</b>		
	Point wiring including metallic switch box, sheet for 3 Pin 16 Amp. Socket Outlet Point With 4 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid Steel Conduit ISI Marked of suitable size including painting etc. with 16 Amp. Switch & Socket / S.S.Combined 16 Amp. of ISI Marked and 4 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit as per specification for :-		
2.5.1	On Separate Board		
	A. Short Point	Each	657.00
	B. Medium Point	Each	1190.00
	C. Long Point	Each	1808.00
	D. Extra Long -I	Each	2323.00
	E. Extra Long -II	Each	3547.00
	F. Extra Long -III	Each	4158.00
2.5.2	Same board socket 16 Amp	Each	260.00
2.5.3	<b>POWER WIRING IN SURFACE RIGID STEEL CONDUIT SYSTEM WITH MODULAR ACCESSORIES</b>		
	Point wiring including metallic switch box, sheet for 3 Pin 16 Amp. Socket Outlet Point With 4 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid Steel Conduit ISI Marked of suitable size including painting etc. with 16 Amp. Switch & Socket / S.S.Combined 16 Amp. of ISI Marked and 4 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit as per specification for :-		
	On Separate Board		
	A. Short Point	Each	679.00
	B. Medium Point	Each	1212.00
	C. Long Point	Each	1830.00
	D. Extra Long -I	Each	2345.00
	E. Extra Long -II	Each	3359.00
	F. Extra Long -III	Each	4180.00
2.5.4	Same board socket 16 Amp	Each	328.00
2.5.5	<b>POWER WIRING IN CONCEALED RIGID STEEL CONDUIT SYSTEM WITH FLUSH TYPE ACCESSORIES</b>		

S.No.	Description of Items	Unit	Rates (in Rs.)
	Point wiring including metallic switch box, sheet for 3 Pin 16 Amp. Socket Outlet Point with 4 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Concealed rigid Steel Conduit ISI Marked of suitable size including painting etc. with 16 Amp. Switch & Socket / S.S.Combined 16 Amp. of ISI Marked and 4 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit as per specification for :-		
	On Separate Board		
	A. Short Point	Each	733.00
	B. Medium Point	Each	1342.00
	C. Long Point	Each	2052.00
	D. Extra Long -I	Each	2612.00
	E. Extra Long -II	Each	3141.00
	F. Extra Long -III	Each	3692.00
2.5.6	Same board socket 16 Amp	Each	234.00
2.5.7	POWER WIRING IN CONCEALED RIGID STEEL CONDUIT SYSTEM WITH MODULAR ACCESSORIES		
	Point wiring including metallic switch box, sheet for 3 Pin 16 Amp. Socket Outlet Point with 4 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Concealed rigid Steel Conduit ISI Marked of suitable size including painting etc. with 16 Amp. Switch & Socket / S.S.Combined 16 Amp. of ISI Marked and 4 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside conduit as per specification for :-		
	On Separate Board		
	A. Short Point	Each	755.00
	B. Medium Point	Each	1364.00
	C. Long Point	Each	2074.00
	D. Extra Long -I	Each	2635.00
	E. Extra Long -II	Each	3164.00
	F. Extra Long -III	Each	3714.00
2.5.8	Same board socket 16 Amp	Each	328.00
2.6	SUPPLYING AND FIXING RIGID STEEL CONDUIT FOR SURFACE CONDUIT SYSTEM		
	Supplying and fixing rigid steel conduit ISI marked alongwith the accessories on surface including painting etc. as required		
1	H.G. Conduit 20 mm, wall thickness-1.6mm	meter	90.00
2	H.G. Conduit 25 mm, wall thickness-1.6mm	meter	110.00
3	H.G. Conduit 32 mm, wall thickness-1.6mm	meter	121.00
4	H.G. Conduit 40 mm, wall thickness-2.0mm	meter	151.00
5	H.G. Conduit 50 mm, wall thickness-2.0mm	meter	188.00
2.7	SUPPLYING AND FIXING RIGID STEEL CONDUIT FOR CONCEALED CONDUIT SYSTEM		
	Supplying and fixing rigid steel conduit ISI marked alongwith the accessories in concealed system including cutting the wall and plastering & repainting the wall with matching colour to bring in its original condition as required		

S.No.	Description of Items	Unit	Rates (in Rs.)
1	H.G. Conduit 20 mm, wall thickness-1.6mm	meter	112.00
2	H.G. Conduit 25 mm, wall thickness-1.6mm	meter	158.00
3	H.G. Conduit 32 mm, wall thickness-1.6mm	meter	167.00
4	H.G. Conduit 40 mm, wall thickness-2.0mm	meter	197.00
5	H.G. Conduit 50 mm, wall thickness-2.0mm	meter	233.00
2.8	<b>METALLIC SWITCH BOXES</b>		
	Supplying and fixing factory fabricated hot dip galvanised switch box for normal flush type accessories of minimum 1.2 mm (18 swg gauge) thickness with earth terminal stud with nut and washer, with 3 mm thick synthetic phenolic resin bonded laminated sheet conforming to grade P-I of IS:2036-1974 on surface / concealed including painting etc. as required as per specification:		
1	MS Box 100 mm X 100 mm X 60mm Deep	Each	114.00
2	MS Box 200 mm X 150 mm X 60 mm Deep	Each	171.00
3	MS Box 180 mm X 100 mm X 60 mm Deep	Each	134.00
4	MS Box 200 mm X 125 mm X 60 mm Deep	Each	162.00
5	MS Box 200 mm X 250 mm X 60 mm Deep	Each	209.00
6	MS Box 250 mm X 300 mm X 60 mm Deep	Each	250.00
7	MS Box 200mm X 300 mm X 60 mm Deep	Each	228.00
2.9	<b>MODULAR SWITCH BOXES</b>		
	Supplying and fixing of approved make modular type metal box with modular frame/ base plate and cover plate including fixing in concealed / surface excluding switch,socket etc. as required for:-		
1	1 Or 2 Module	Each	111.00
2	4 Module	Each	146.00
3	6 Module	Each	165.00
4	8 Module	Each	196.00
5	12 Module	Each	214.00

**CHAPTER -3**

**WIRING IN SURFACE RIGID P.V.C. CASING CAPPING SYSTEM**

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
3.1	WIRING IN SURFACE RIGID PVC CASING AND CAPPING SYSTEM WITH FLUSH TYPE ACCESSORIES		
	Point wiring including metallic switch box, sheet, switch, socket, lamp holders/ceiling roses etc with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C. CASING AND CAPPING ISI Marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside casing & capping including painting etc. as required as per specification for :-		
3.1.1	Light Point/Fan Points.		
1	a) Short point	Each	291.00
2	b) Medium point	Each	555.00
3	c) Long point	Each	859.00
3.1.2	3 Pin 6 Amp socket outlet on Separate Board		
1	a) Short point	Each	291.00
2	b) Medium point	Each	555.00
3	c) Long point	Each	859.00
3.1.3	Call Bell / Buzzer Points		
1	a) Short point	Each	291.00
2	b) Medium point	Each	555.00
3	c) Long point	Each	859.00
3.1.4	Twin Control light points		
1	a) Short point	Each	326.00
2	b) Medium point	Each	625.00
3	c) Long point	Each	976.00
3.1.5	Point wiring including metallic switch box, sheet, switch, socket for 3 pin 6 Amp. Socket outlet point with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C. CASING AND CAPPING ISI marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside casing & capping with required materials as per specification on same board	Each	164.00
3.1.6	Circuit Wiring		
	Wiring for circuit wiring with PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C. CASING AND CAPPING of ISI marked suitable size including painting etc. as required as per specification		
1	a) 2x2.5 Sq.mm.	meter	99.00
2	b) 4x2.5 Sq.mm.	meter	137.00
3	c) 6x2.5 Sq.mm.	meter	175.00
4	d) 8x2.5 Sq.mm.	meter	212.00

S.No.	Description of Items	Unit	Rates (in Rs.)
3.2	WIRING IN SURFACE RIGID PVC CASING AND CAPPING SYSTEM WITH MODULAR ACCESSORIES		
	Point wiring including metallic switch box, sheet, switche, socket, lamp holders/ceiling roses etc with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C. CASING AND CAPPING ISI Marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside casing & capping including painting etc. as required as per specification for :-		
3.2.1	Light Point/Fan Points.		
1	a) Short point	Each	321.00
2	b) Medium point	Each	585.00
3	c) Long point	Each	890.00
3.2.2	3 Pin 6 Amp socket outlet on Separate Board		
1	a) Short point	Each	359.00
2	b) Medium point	Each	513.00
3	c) Long point	Each	753.00
3.2.3	Call Bell / Buzzer Points		
1	a) Short point	Each	334.00
2	b) Medium point	Each	598.00
3	c) Long point	Each	903.00
3.2.4	Twin Control light points		
1	a) Short point	Each	339.00
2	b) Medium point	Each	638.00
3	c) Long point	Each	989.00
3.2.5	Point wiring including metallic switch box, sheet, switche, socket for 3 pin 6 Amp. Socket outlet point with 1.5 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C. CASING AND CAPPING ISI marked of suitable size and 1.5 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside casing & capping with required materials as per specification on same board	Each	244.00
3.3	Power Wiring in PVC Casing Capping System with Flush Type Accessories		
	Point wiring including metallic switch box, sheet for 3 Pin 16 Amp. Socket Outlet Point With 4 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C.CASING AND CAPPING ISI Marked of suitable size including painting etc. with 16 Amp. F.T. Switch & Socket / S.S.Combined 16 Amp. of ISI Marked and 4 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside capping as per specification for :-		
3.3.1	On Separate Board		
	A. Short Point	Each	540.00
	B. Medium Point	Each	925.00
	C. Long Point	Each	1370.00

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
	D. Extra Long -I	Each	1750.00
	E. Extra Long -II	Each	2511.00
	F. Extra Long -III	Each	3361.00
3.3.2	Same board socket 16 Amps	Each	234.00
3.3.3	Power Wiring in PVC Casing Capping System with Mobular Accessories		
	Point wiring including metallic switch box, sheet for 3 Pin 16 Amp. Socket Outlet Point With 4 Sq. mm. PVC insulated cable FR with copper multi strand conductor ISI marked in Surface rigid P.V.C.CASING AND CAPPING ISI Marked of suitable size including painting etc. with 16 Amp. F.T. Switch & Socket / S.S.Combined 16 Amp. of ISI Marked and 4 Sq. mm. PVC insulated copper earth continuity conductor of green colour inside capping as per specification for :-		
	On Separate Board		
	A. Short Point	Each	562.00
	B. Medium Point	Each	947.00
	C. Long Point	Each	1392.00
	D. Extra Long -I	Each	1772.00
	E. Extra Long -II	Each	2416.00
	F. Extra Long -III	Each	3231.00
3.3.4	Same board socket 16 Amps	Each	328.00

**CHAPTER - 4**

**WIRING IN EXISTING/CONDUIT/P.V.C. CASING CAPPING SYSTEM**

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
4.1	Point Wiring in Existing Surface rigid Conduit System with Flush Type Accessories.		
	Point wiring (excluding metallic switch box, but including sheet, switches, sockets,lamp holders/ceiling roses etc) with 1.5 Sq. mm. PVC insulated cable with Copper Stranded Conductor ISI marked in existing surface rigid conduit ISI Marked of suitable size with PVC insulated copper earth continuity conductor of green colour as per specification including earthing of regulator etc as required for :-		
4.1.1	Light Point / Fan Points.		
1	a) Short point	Each	226.00
2	b) Medium point	Each	442.00
3	c) Long point	Each	683.00
4.1.2	3 Pin 6 Amp socket outlet on Serarate Board		
1	a) Short point	Each	226.00
2	b) Medium point	Each	442.00
3	c) Long point	Each	683.00
4.1.3	Call Bell / Buzzer Points		
1	a) Short point	Each	226.00
2	b) Medium point	Each	442.00
3	c) Long point	Each	683.00
4.1.4	Twin Control light points		
1	a) Short point	Each	261.00
2	b) Medium point	Each	512.00
3	c) Long point	Each	800.00
4.2	POINT WIRING IN EXISTING SURFACE RIGID CONDUIT SYSTEM WITH MODULAR ACCESSORIES		
	Point wiring (excluding metallic switch box, but including sheet, switches, sockets,lamp holders/ceiling roses etc) with 1.5 Sq. mm. PVC insulated cable with Copper Stranded Conductor ISI marked in existing surface rigid conduit ISI Marked of suitable size with PVC insulated copper earth continuity conductor of green colour as per specification including earthing of regulator etc as required for :-		
4.2.1	Light Point / Fan Points.		
1	a) Short point	Each	260.00
2	b) Medium point	Each	476.00
3	c) Long point	Each	717.00
4.2.2	3 Pin 6 Amp socket outlet on Serarate Board		
1	a) Short point	Each	298.00
2	b) Medium point	Each	514.00
3	c) Long point	Each	755.00
4.2.3	Call Bell / Buzzer Points		



<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
1	a) Short point	Each	273.00
2	b) Medium point	Each	489.00
3	c) Long point	Each	730.00
4.2.4	Twin Control light points		
1	a) Short point	Each	278.00
2	b) Medium point	Each	529.00
3	c) Long point	Each	816.00
4.3	CIRCUIT WIRING IN EXISTING CONDUIT / PVC CASING CAPPING		
	Supplying and drawing single core PVC insulated cable FR with copper multi strand conductor ISI marked in existing rigid conduit in surface or concealed as per specification.		
4.3.1	1.5 Sq mm cable		
1	1 X 1.5 sq mm	meter	34.00
2	2 X 1.5 sq mm	meter	68.00
3	3 X 1.5 sq mm	meter	102.00
4	4 X 1.5 sq mm	meter	136.00
5	5 X 1.5 sq mm	meter	169.00
6	6 X 1.5 sq mm	meter	203.00
7	7 X 1.5 sq mm	meter	237.00
8	8 X 1.5 sq mm	meter	271.00
9	9 X 1.5 sq mm	meter	305.00
10	10 X 1.5 sq mm	meter	339.00
4.3.2	2.5 Sq mm cable		
1	1 X 2.5 sq mm	meter	41.00
2	2 X 2.5 sq mm	meter	82.00
3	3 X 2.5 sq mm	meter	122.00
4	4 X 2.5 sq mm	meter	163.00
5	5 X 2.5 sq mm	meter	204.00
6	6 X 2.5 sq mm	meter	245.00
7	7 X 2.5 sq mm	meter	286.00
8	8 X 2.5 sq mm	meter	326.00
9	9 X 2.5 sq mm	meter	367.00
10	10 X 2.5 sq mm	meter	408.00
4.3.3	4.00 Sq mm cable		
1	1 X 4.00 sq mm	meter	51.00
2	2 X 4.00 sq mm	meter	103.00
3	3 X 4.00 sq mm	meter	154.00
4	4 X 4.00 sq mm	meter	206.00
5	5 X 4.00 sq mm	meter	257.00
6	6 X 4.00 sq mm	meter	309.00
7	7 X 4.00 sq mm	meter	360.00
8	8 X 4.00 sq mm	meter	411.00
9	9 X 4.00 sq mm	meter	463.00
10	10 X 4.00 sq mm	meter	514.00

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
4.3.4	6.00 Sq mm cable		
1	1 X 6.00 sq mm	meter	66.00
2	2 X 6.00 sq mm	meter	133.00
3	3 X 6.00 sq mm	meter	199.00
4	4 X 6.00 sq mm	meter	265.00
5	5 X 6.00 sq mm	meter	331.00
6	6 X 6.00 sq mm	meter	398.00
7	7 X 6.00 sq mm	meter	464.00
8	8 X 6.00 sq mm	meter	530.00
9	9 X 6.00 sq mm	meter	597.00
10	10 X 6.00 sq mm	meter	663.00

**CHAPTER - 5**

**SUB MAINS IN SURFACE/CONCEALED RIGID STEEL CONDUIT SYSTEM**

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (In Rs.)</b>
5.1	SUB MAINS IN SURFACE RIGID STEEL CONDUIT IN COPPER CONDUCTOR		
	Wiring for sub-mains with PVC insulated cable FR with copper multi strand conductor ISI marked in surface rigid steel ISI marked conduit of suitable size(conduit included) including connection painting etc ,as required as per specification		
5.1.1	2 WIRE SUB MAIN		
1	2.5 sq mm cable in 20 mm conduit	meter	188.00
2	4.0 sq mm cable in 20 mm conduit	meter	211.00
3	6.0 sq mm cable in 25 mm conduit	meter	265.00
4	10.0 sq mm cable in 25 mm conduit	meter	338.00
5	16.0 sq mm cable in 25 mm conduit	meter	426.00
6	25.0 sq mm cable in 32 mm conduit	meter	552.00
7	35.0 sq mm cable in 40 mm conduit	meter	803.00
8	50.0 sq mm cable in 50 mm conduit	meter	1207.00
5.1.2	3 WIRE SUB MAIN		
1	2.5 sq mm cable in 20 mm conduit	meter	202.00
2	4.0 sq mm cable in 20 mm conduit	meter	243.00
3	6.0 sq mm cable in 25 mm conduit	meter	313.00
4	10.0 sq mm cable in 25 mm conduit	meter	422.00
5	16.0 sq mm cable in 25 mm conduit	meter	552.00
6	25.0 sq mm cable in 32 mm conduit	meter	736.00
7	35.0 sq mm cable in 40 mm conduit	meter	1100.00
8	50.0 sq mm cable in 50 mm conduit	meter	1683.00
5.1.3	3 1/2 WIRE SUB MAIN		
1	3 x 2.5 + 1 x 1.5 sq mm cable in 20 mm conduit	meter	227.00
2	3 x 4.0 + 1 x 2.5 sq mm cable in 25 mm conduit	meter	290.00
3	3 x 6.0 + 1 x 4.0 sq mm cable in 25 mm conduit	meter	350.00
4	3 x 10.0 + 1 x 6.0 sq mm cable in 25 mm conduit	meter	475.00
5	3 x 16.0 + 1 x 10.0 sq mm cable in 32 mm conduit	meter	648.00
6	3 x 25.0 + 1 x 16.0 sq mm cable in 50 mm conduit	meter	934.00
7	3 x 35.0 + 1 x 16.0 sq mm cable in 50 mm conduit	meter	1263.00
5.1.4	4 WIRE SUB MAIN		
1	2.5 sq mm cable in 20 mm conduit	meter	234.00
2	4.0 sq mm cable in 25 mm conduit	meter	302.00
3	6.0 sq mm cable in 25 mm conduit	meter	366.00
4	10.0 sq mm cable in 25 mm conduit	meter	512.00
5	16.0 sq mm cable in 32 mm conduit	meter	687.00
6	25.0 sq mm cable in 40 mm conduit	meter	952.00
7	35.0 sq mm cable in 50 mm conduit	meter	1429.00

S.No.	Description of Items	Unit	Rates (In Rs.)
5.2	SUB-MAIN IN CONCEALED RIGID STEEL CONDUIT IN COPPER CONDUCTOR		
	Wiring for sub-mains with PVC insulated cable FR with copper multi strand conductor ISI marked in recessed / concealed rigid steel ISI marked conduit of suitable size(Conduit included) including connection painting etc ,as required as per specification		
5.2.1	2 WIRE SUB-MAIN		
1	2.5 sq mm cable in 20 mm conduit	meter	211.00
2	4.0 sq mm cable in 20 mm conduit	meter	234.00
3	6.0 sq mm cable in 25 mm conduit	meter	287.00
4	10.0 sq mm cable in 25 mm conduit	meter	360.00
5	16.0 sq mm cable in 25 mm conduit	meter	443.00
6	25.0 sq mm cable in 32 mm conduit	meter	569.00
7	35.0 sq mm cable in 40 mm conduit	meter	820.00
8	50.0 sq mm cable in 50 mm conduit	meter	1221.00
5.2.2	3 WIRE SUB-MAIN		
1	2.5 sq mm cable in 20 mm conduit	meter	231.00
2	4.0 sq mm cable in 20 mm conduit	meter	265.00
3	6.0 sq mm cable in 25 mm conduit	meter	335.00
4	10.0 sq mm cable in 25 mm conduit	meter	444.00
5	16.0 sq mm cable in 25 mm conduit	meter	569.00
6	25.0 sq mm cable in 32 mm conduit	meter	753.00
7	35.0 sq mm cable in 40 mm conduit	meter	1113.00
8	50.0 sq mm cable in 50 mm conduit	meter	1696.00
5.2.3	3 1/2 WIRE SUB-MAIN		
1	3 x 2.5 + 1 x 1.5 sq mm cable in 20 mm conduit	meter	243.00
2	3 x 4.0 + 1 x 2.5 sq mm cable in 25 mm conduit	meter	307.00
3	3 x 6.0 + 1 x 4.0 sq mm cable in 25 mm conduit	meter	366.00
4	3 x 10.0 + 1 x 6.0 sq mm cable in 25 mm conduit	meter	492.00
5	3 x 16.0 + 1 x 10.0 sq mm cable in 32 mm conduit	meter	662.00
6	3 x 25.0 + 1 x 16.0 sq mm cable in 50 mm conduit	meter	949.00
7	3 x 35.0 + 1 x 16.0 sq mm cable in 50 mm conduit	meter	1278.00
5.2.4	4 WIRE SUB-MAIN		
1	2.5 sq mm cable in 20 mm conduit	meter	251.00
2	4.0 sq mm cable in 20 mm conduit	meter	318.00
3	6.0 sq mm cable in 25 mm conduit	meter	383.00
4	10.0 sq mm cable in 25 mm conduit	meter	528.00
5	16.0 sq mm cable in 25 mm conduit	meter	704.00
6	25.0 sq mm cable in 32 mm conduit	meter	968.00
7	35.0 sq mm cable in 40 mm conduit	meter	1446.00

**CHAPTER - 6**  
**REWIRING IN EXISTING CONDUIT**

S.No.	Description of Items	Unit	Rates ( in Rs.)
6	REWIRING IN EXISTING RIGID STEEL / PVC NON METALLIC CONDUIT WITH COPPER CONDUCTOR		
	Rewiring in existing surface /concealed rigid steel /PVC non metallic conduit with PVC insulated cable FR with copper multi strand conductor ISI marked and other materials as required including replacement of worn-out /damaged/missing material, painting etc. complete as per specification. This shall include all work, arrangement required for wiring but shall exclude switch, ceiling rose fitting etc.		
6.1	Light /Fan/3Pin 6AMP socket outlet on separate board / Call Bell/ Buzzer Points :-		
1	Short Point	Each	218.00
2	Medium Point	Each	434.00
3	Long Point	Each	675.00
6.2	Twin Control Light Point		
1	Short Point	Each	253.00
2	Medium Point	Each	504.00
3	Long Point	Each	792.00
6.3	Circuit Wiring		
1	2 X 1.5 Sq mm.	meter	27.00
2	2 X 2.5 Sq mm.	meter	41.00
6.4	3 Pin 5 Amp Socket Outlet Point on Same Board		
1	3 Pin 5 Amp Socket Outlet Point on Same Board with flush type accessires	Each	218.00
2	3 Pin 5 Amp Socket Outlet Point on Same Board with modular accessires	Each	244.00
6.5	2 WIRE SUB-MAIN		
1	2 X 2.5 Sq mm	meter	65.00
2	2 X 4.00 Sq mm	meter	87.00
3	2 X 6.00 Sq mm	meter	117.00
4	2 X 10.0 Sq mm	meter	185.00
5	2 X 16.00 Sq mm	meter	262.00
6	2 X 25.00 Sq mm	meter	371.00
7	2 X 35.00 Sq mm	meter	576.00
8	2 X 50.00 Sq mm	meter	914.00
6.6	3 WIRE SUB-MAIN		
1	3 X 2.5 Sq mm	meter	84.00
2	3 X 4.0 Sq mm	meter	116.00
3	3 X 6.0 Sq mm	meter	161.00
4	3 X 10.0 Sq mm	meter	264.00
5	3 X 16.0 Sq mm	meter	380.00
6	3 X 25.0 Sq mm	meter	542.00
7	3 X 35.0 Sq mm	meter	850.00
8	3 X 50.0 Sq mm	meter	1357.00

S.No.	Description of Items	Unit	Rates ( in Rs.)
6.7	3 1/2 WIRE SUB-MAIN		
1	a) 3 x 2.5 + 1 x 1.5 sq mm	meter	96.00
2	b) 3 x 4.0 + 1 x 2.5 sq mm	meter	135.00
3	c) 3 x 6.0 + 1 x 4.0 sq mm	meter	191.00
4	d) 3 x 10.0 + 1 x 6.0 sq mm	meter	308.00
5	e) 3 x 16.0 + 1 x 10.0 sq mm	meter	458.00
6	f) 3 x 25.0 + 1 x 16.0 sq mm	meter	660.00
7	g) 3 x 35.0 + 1 x 16.0 sq mm	meter	967.00
6.8	4 WIRE SUB-MAIN		
1	4 X 2.5 sq mm	meter	103.00
2	4 X 4.0 sq mm	meter	146.00
3	4 X 6.0 sq mm	meter	206.00
4	4 X 10.0 sq mm	meter	342.00
5	4 X 16.0 sq mm	meter	497.00
6	4 X 25.0 sq mm	meter	714.00
7	4 X 35.0 sq mm	meter	1124.00
8	4 X 50.00 sq mm	meter	1800.00

**CHAPTER - 7**  
**CONTROL SWITCH GEAR / BUS BAR**

S.No.	Description of Items	Unit	Rates (In Rs.)
7.1	Supplying of ISI Marked Switch Fuse Unit (rewirable type ) triple pole with neutral link ,415 Volt having conduit / cable gland entry with two earthing terminals confirming to IS : 13947(Part I & III) .		
1	16 Amps.	Each	852.00
2	32 Amps.	Each	1225.00
3	63 Amps.	Each	2538.00
4	100 Amps.	Each	5063.00
5	200 Amps.	Each	7583.00
6	320 Amps.	Each	11223.00
7.2	Supplying of ISI Marked iron clad / metal clad triple pole and neutral switch fuse unit with two earthing terminals & without HRC fuses :-		
1	16 Amps. 415/500 Volts.	Each	863.00
2	32 Amps. 415/500 Volts.	Each	1179.00
3	63 Amps. 415/500 Volts.	Each	2494.00
4	100 Amps. 415/500 Volts.	Each	4762.00
5	200 Amps. 415/500 Volts.	Each	6659.00
6	400 Amps. 415/500 Volts.	Each	12243.00
7	500 Amps. 415/500 Volts.	Each	15907.00
8	600 Amps. 415/500 Volts.	Each	16784.00
7.3	Supplying of ISI Marked Change over switches in sheet encloser confirming to IS : 4064 / IS : 13947 (part I & III ) with side handle operated 4 pole with two earthing terminals		
1	16 Amps. 415/500 Volts. (on load )	Each	1489.00
2	32 Amps. 415/500 Volts.(on load )	Each	1751.00
3	63 Amps. 415/500 Volts.(on load )	Each	3482.00
4	100 Amps. 415/500 Volts.(on load )	Each	7496.00
5	200 Amps. 415/500 Volts.( off load )	Each	10725.00
6	320 Amps. 415/500 Volts.( off load )	Each	12457.00
7	400 Amps. 415/500 Volts.( off load )	Each	17406.00
8	630 Amps. 415/500 Volts.( off load )	Each	25230.00
9	800 Amps. 415/500 Volts.( off load )	Each	31086.00
7.4	Supplying of ISI Marked On-Load Change over switches panel mouniting type confirming to IS : 13947 (part I & III ) with front operated 4 pole, 415 V with two earthing terminals if required.		
1	40 Amps. (open - execution )	Each	3345.00
2	63 Amps. (open - execution )	Each	3524.00
3	100 Amps. (open - execution )	Each	4497.00
4	125 Amps. .(open - execution )	Each	6212.00
5	160 Amps. (open - execution )	Each	6584.00
6	200 Amps. (open - execution )	Each	8379.00
7	250 Amps. (open - execution )	Each	11179.00
8	320 Amps. .(open - execution )	Each	12947.00
9	400 Amps. .(open - execution )	Each	17832.00

S.No.	Description of Items	Unit	Rates (In Rs.)
10	630 Amps. .(open - execution )	Each	21821.00
11	800 Amps. .(open - execution )	Each	29042.00
12	40 Amps. (With enclosure )	Each	4428.00
13	63 Amps. (With enclosure )	Each	4480.00
14	100 Amps.(With enclosure )	Each	5511.00
15	125 Amps. .(With enclosure )	Each	8134.00
16	160 Amps. .(With enclosure )	Each	9232.00
17	200 Amps. .(With enclosure )	Each	10425.00
18	320 Amps. .(With enclosure )	Each	15342.00
19	400 Amps. .(With enclosure )	Each	22694.00
20	630 Amps. .(With enclosure )	Each	25478.00
21	800 Amps. .(With enclosure )	Each	33347.00
7.5	Supplying of ISI Marked AutomaticTransfer Switches (ATS) confirming to IEC : 60947-1 & IEC : 60947-6-1 with automatic inbuilt time delay 4 pole, 415 V with two earthing terminals if required.		
1	100 Amp (open execution )	Each	23822.00
2	160 Amp (open execution )	Each	33434.00
3	200 Amp (open execution )	Each	41797.00
4	315 Amp (open execution )	Each	45124.00
5	400 Amp (open execution )	Each	59288.00
6	630 Amp (open execution )	Each	69082.00
7	100 Amp (with enclosure )	Each	28898.00
8	160 Amp (with enclosure )	Each	33077.00
9	200 Amp (with enclosure )	Each	44743.00
10	315 Amp (with enclosure )	Each	48517.00
11	400 Amp (with enclosure )	Each	61078.00
12	630 Amp (with enclosure )	Each	79602.00
7.6	Supplying of Two Way Centre off MCB Changeover Switch confirming to IS:13947 (part III ) / IEC : 60947-3, 2/4 pole ,AC 240 / 415 Volt, 50 Hz		
1	25 Amps, Double Pole (DP)	Each	734.00
2	40 Amps, Double Pole (DP)	Each	963.00
3	25 Amps, Four Pole (FP)	Each	1183.00
4	40 Amps, Four Pole (FP)	Each	1860.00
7.7	Supplying of ISI Marked Switch Disconnecter Fuse (SDF), open execution (Panel mounting cubicle type) confirming to IS:13947 (part I & III ) 2 pole , AC -23A ,50 Hz , 415 Volt with 2 HBC fuses complete.		
1	32 Amps	Each	1049.00
2	63 Amps	Each	1484.00
3	100 Amps	Each	2821.00
4	125 Amps	Each	3324.00



S.No.	Description of Items	Unit	Rates (In Rs.)
7.8	Supplying of ISI Marked Switch Disconnecter Fuse (SDF), in sheet steel enclosure (Panel mounting cubicle type) confirming to IS:13947 (part I & III ) 2 pole , AC -23A ,50 Hz , 415 Volt with 2 HBC fuses complete.		
1	32 Amps	Each	1647.00
2	63 Amps	Each	2099.00
3	100 Amps	Each	3575.00
4	125 Amps	Each	3821.00
7.9	Supplying of ISI Marked Switch Disconnecter Fuse (SDF), open execution (Panel mounting cubicle type) confirming to IS:13947 (part I & III ) 3 pole and neutral , AC -23A ,50 Hz , 415 Volt with 3 HBC fuses complete.		
1	32 Amps	Each	1302.00
2	63 Amps	Each	1739.00
3	100 Amps	Each	3209.00
4	125 Amps	Each	3702.00
5	160 Amps	Each	5371.00
6	200 Amps	Each	5697.00
7	250 Amps	Each	6623.00
8	320 Amps	Each	9129.00
9	400 Amps	Each	10243.00
10	630 Amps	Each	17618.00
7.10	Supplying of ISI Marked Switch Disconnecter Fuse (SDF), in sheet steel enclosure (Panel mounting cubicle type) confirming to IS:13947 (part I & III ) 3 pole and neutral , AC -23A ,50 Hz , 415 Volt with 3 HBC fuses complete.		
1	32 Amps	Each	2279.00
2	63 Amps	Each	2866.00
3	100 Amps	Each	4221.00
4	125 Amps	Each	4869.00
5	160 Amps	Each	6249.00
6	200 Amps	Each	7030.00
7	250 Amps	Each	7832.00
8	320 Amps	Each	10066.00
9	400 Amps	Each	11002.00
10	630 Amps	Each	20074.00
7.11	Supplying of ISI Marked Direct On-Line Starters confirming to IS : 13947-4 with suitable over load relay range and contactor size, 415 V , 3 -Phase with two earthing terminals		
1	i) 0.75 / 1.0 / 2.0 / 3.0 / 5.0 / 7.5 HP	Each	1091.00
2	ii) 10 HP	Each	1221.00
7.12	Supplying of ISI Marked Automatic Star-Delta Starters confirming to IS : 13947-4 with suitable over load relay range and contactor size & timer 415 V , 3 -Phase with two earthing terminals		
1	i) 10.0 HP	Each	4096.00
2	ii) 12.5 / 15.0 HP	Each	4476.00
3	iii) 20 HP	Each	4929.00
4	iv) 25 HP	Each	5256.00

S.No.	Description of Items	Unit	Rates (In Rs.)
5	v) 30 HP	Each	6961.00
6	vi) 35 HP	Each	7972.00
7	vii) 50 HP	Each	11829.00
8	viii) 60 HP	Each	17368.00
9	ix) 75 HP	Each	20748.00
7.13	Supplying & fixing of High Breaking Capacity (HBC) Fuse Links bolted connection type as per IS : 13703 : 1993 & IEC : 60269 :1986 with 80 kA breaking capacity of approved make		
1	20 Amp. to 32 Amp	Each	38.00
2	36 Amp to 63 Amp	Each	55.00
3	80 Amp to 125 Amp	Each	125.00
4	160 Amp to 250 Amp	Each	191.00
5	300 Amp to 315 Amp	Each	259.00
6	400 Amp to 500 Amp	Each	567.00
7	630 Amp	Each	1136.00
7.14	Supplying & fixing of High Breaking Capacity (HBC) Fuse Links knife (DIN) type as per IS : 13703 : 1993 & IEC : 60269 :1986 with 80 kA breaking capacity of approved make		
1	20 Amp. to 100 Amp	Each	173.00
2	125 Amp to 160 Amp	Each	182.00
3	200 Amp to 315 Amp	Each	368.00
4	350 Amp to 400 Amp	Each	447.00
5	425 Amp to 630 Amp	Each	645.00
7.15	Supplying & fixing of ISI marked Porcelain Rewireable type fuse carrier & base unit of approved make & confirming to IS: 2086-1993		
1	16 Amps./240 Volts	Each	24.00
2	16 Amps./415 Volts or 32 Amps/240 Volts	Each	32.00
3	32 Amps /415 Volts	Each	71.00
4	63 Amps /415 Volts	Each	115.00
5	100 Amps /415 Volts	Each	222.00
6	200 Amps /415 Volts	Each	639.00
7	300 Amps /415 Volts	Each	783.00
7.16	<b>BUSBAR CHAMBERS</b>		
	Supplying of metal clad ISI Marked busbar chamber made of heavy gauge iron sheet complete with copper strip and busbar supports as per specification confirming to IS -4064		
1	32 AMP 440/500 VOLTS, 4 way	Each	543.00
2	60/63 AMP 440/500 VOLTS, 4 way	Each	1074.00
3	100 AMP 440/500 VOLTS, 4 way	Each	1546.00
4	200 AMP 440/500 VOLTS, 4 way	Each	2745.00
5	300 AMP 440/500 VOLTS, 4 way	Each	3395.00
6	400 AMP 440/500 VOLTS, 4 way	Each	3819.00
7	500 AMP 440/500 VOLTS, 4 way	Each	5012.00

**CHAPTER - 8**

**MCCB'S, ISOLATORS, MCB'S, MCB-DB AND FIXING**

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
8	Supplying of ISI Marked and approved make of Moulded Case Circuit Breaker (MCCB) suitable for 3 phase,3 pole, 50 Hz, 415 Volts, AC supply with respective interrupting capacity (KA) at 415 Volts cited against their range standard conforming to IS - 8828		
8.1	MCCB with Breaking Capacity 25 KA at 415 V		
1	Current Rating -25 to100 Amps & 70% -100% adjustable	Each	3767.00
2	Current Rating -125 Amps & 70% -100% adjustable	Each	5035.00
3	Current Rating -160 Amps & 70% -100% adjustable	Each	6721.00
4	Current Rating -200 Amps & 70% -100% adjustable	Each	6921.00
8.2	MCCB with Breaking Capacity 35 KA at 415 V		
1	Current Rating -160 Amps & Adjustable: 70% -100% thermal & 5-10 times magnetic setting	Each	10267.00
2	Current Rating -200 Amps & Adjustable: 70% -100% thermal & 5-10 times magnetic setting	Each	11111.00
3	Current Rating -250 Amps & Adjustable: 70% -100% thermal & 5-10 times magnetic setting	Each	13740.00
4	Current Rating -315 Amps & Adjustable: 70% -100% thermal & 5-10 times magnetic setting	Each	16315.00
5	Current Rating -400 Amps & Adjustable: 70% -100% thermal & 4-10 times magnetic setting	Each	16865.00
6	Current Rating -500/630 Amps & Adjustable: 70% -100% thermal & 4-10 times magnetic setting	Each	17312.00
7	Current Rating -800 Amps & Adjustable: 70% -100% thermal & 4-10 times magnetic setting	Each	22485.00
8.3	MCCB with Breaking Capacity 50 KA at 415 V		
1	Current Rating -400 Amps & Adjustable: 70% -100% thermal & 4-10 times magnetic setting	Each	17920.00
2	Current Rating -500/630 Amps & Adjustable: 70% -100% thermal & 4-10 times magnetic setting	Each	18820.00
3	Current Rating -800 Amps & Adjustable: 70% -100% thermal & 4-10 times magnetic setting	Each	22959.00
8.4	Supplying of ISI Marked and approved make of Air Circuit Breaker (ACB) with Microprocessor release with LCD screen showing kW ,kVA,PF,maximum demand with breaking capacity of 50 kA , 4 pole , 415 Volts conforming to IEC : 60947-2 / IS :13947-II		
1	630 Amp,manual,fixed	Each	58791.00
2	800 Amp,manual,fixed	Each	57545.00
3	1000 Amp,manual,fixed	Each	59113.00
4	1250 Amp,manual,fixed	Each	84333.00
5	1600 Amp,manual,fixed	Each	92928.00
6	2000 Amp,manual,fixed	Each	105388.00
7	630 Amp,manual,drawout	Each	90852.00
8	800 Amp,manual,drawout	Each	92914.00
9	1000 Amp,manual,drawout	Each	101168.00
10	1250 Amp,manual,drawout	Each	132036.00

S.No.	Description of Items	Unit	Rates (in Rs.)
11	1600 Amp,manual,drawout	Each	132900.00
12	2000 Amp,manual,drawout	Each	162398.00
8.5	Supplying of ISI Marked and accepted standard of Miniature Circuit Breaker (MCB) of 'C' series suitable for 240/415 Volts, 50 Cycle , 10 kA Value AC supply confirming to IS : 8828 : 1996, IEC : 60898 :2002 but without enclosures :-		
8.5.1	SINGLE POLE (SP)		
1	0.5 Amp to 5 Amp Rating	Each	178.00
2	6 Amp to 32 Amp Rating	Each	81.00
3	For 40 Amps. Rating only.	Each	153.00
4	50 Amp to 63 Amp Rating	Each	175.00
8.5.2	SINGLE POLE & NEUTRAL (SPN)		
1	0.5 Amp to 5 Amp Rating	Each	416.00
2	6 Amp to 32 Amp Rating	Each	235.00
3	For 40 Amps. Rating only.	Each	320.00
4	50 Amp to 63 Amp Rating	Each	346.00
8.5.3	DOUBLE POLE (DP)		
1	0.5 Amp to 5 Amp Rating	Each	506.00
2	6 Amp to 32 Amp Rating	Each	248.00
3	For 40 Amps. Rating only.	Each	336.00
4	50 Amp to 63 Amp Rating	Each	396.00
8.5.4	FOR TRIPLE POLE (TP)		
1	0.5 Amp to 5 Amp Rating	Each	727.00
2	6 Amp to 32 Amp Rating	Each	439.00
3	For 40 Amps. Rating only.	Each	578.00
4	50 Amp to 63 Amp Rating	Each	653.00
8.5.5	FOR TRIPLE POLE & NEUTRAL (TPN)		
1	0.5 Amp to 5 Amp Rating	Each	1003.00
2	6 Amp to 32 Amp Rating	Each	532.00
3	For 40 Amps. Rating only.	Each	696.00
4	50 Amp to 63 Amp Rating	Each	745.00
8.5.6	FOUR POLE (FP)		
1	0.5 Amp to 5 Amp Rating	Each	1003.00
2	6 Amp to 32 Amp Rating	Each	653.00
3	For 40 Amps. Rating only.	Each	745.00
4	50 Amp to 63 Amp Rating	Each	827.00
8.4.(B)	Supplying of MCB Isolators suitable for 240/415 Volts, 50 Hz AC supply with KA value rating 10 kA of approved make confirming to IS :13947-Part III : 1993 & IEC :60947- 3:2001 (without enclosures ) :-		
8.4.1	SINGLE POLE		
1	40 Amps.	Each	163.00
2	63 Amps.	Each	184.00

S.No.	Description of Items	Unit	Rates (in Rs.)
8.4.2	DOUBLE POLE		
1	40 Amps.	Each	265.00
2	63 Amps.	Each	320.00
8.4.3	TRIPLE POLE		
1	40 Amps.	Each	451.00
2	63 Amps.	Each	497.00
8.4.4	FOUR POLE		
1	40 Amps.	Each	544.00
2	63 Amps.	Each	610.00
3	80 Amps.	Each	752.00
4	100 Amps.	Each	727.00
8.5.(B)	Supply of approved make powder coated sheet steel encloser SPN MCB DB inclusive of Busbar, Neutral bar, Earth bar & two earth terminals etc. complete as per IS:13032( exclusive of MCB & isolator)-		
1	2 way single door	Each	68.00
2	4 way single door	Each	306.00
3	4 way double door	Each	507.00
4	6 way double door	Each	595.00
5	8 way double door	Each	642.00
6	12 way double door	Each	813.00
7	16 way double door	Each	1027.00
8.6	Supplying of approved make TPN MCB DB Metal Double Door with provision for FP MCB/Isolator/RCCB/RCBO as incomer and SP MCBs as outgoing inclusive of Busbar, Neutral bar, Earth bar & two earth terminals etc. complete as per IS:13032( exclusive of MCB & isolator ):		
1	4 way (4+12)	Each	1251.00
2	6 way (4+18)	Each	1530.00
3	8 way (4+24)	Each	1993.00
4	4 way (8+12)	Each	1251.00
5	6 way (8+18)	Each	1530.00
6	8 way (8+24)	Each	1993.00
7	12 way (8+36)	Each	2705.00
8.7	Supplying of approved make Vertical TPN MCB DB Metal Double Door with provision for FP CB/Isolator/RCCB/RCBO as incomer and SP/TP MCBs as outgoing inclusive of Busbar, Neutral bar, Earth bar & two earth terminals etc. complete as per IS:13032( exclusive of MCB & isolator )		
1	4 way (8+12)	Each	3319.00
2	6 way (8+24)	Each	3627.00
3	12 way (8+36)	Each	5222.00
8.8	Supplying of approved make, powder coated Vertical TPN MCB DB Metal Double Door with MCCB 100A TP 10kA as incomer and space for SP/TP MCBs as outgoing (without MCBs) inclusive of busbar & connections etc without MCB:		
1	4 way with MCCB	Each	6769.00

S.No.	Description of Items	Unit	Rates (in Rs.)
2	8 way with MCCB	Each	7178.00
3	12 way with MCCB	Each	8687.00
8.9	Supplying & fixing of approved make Industrial type metal plug & socket DBs (without MCB) SPN sheet encloser (dust protected ) inclusive of 2 pole and earth metal plug and socket and space to incorporate SP MCB complete as per specification as required.		
1	10 Amps	Each	589.00
2	20 Amps	Each	584.00
8.10	Supplying & fixing of ISI marked Industrial type metal plug socket D.B.s (without MCBs) for TPN encloser three pole and earth metal plug and socket including space incorporating TP MCB complete as per specification as required.		
1	20 Amps	Each	1124.00
2	30 Amps	Each	1548.00
8.11	Supply & fixing of approved make Industrial type metal plug & socket, 3 pin (2P + E) conforming to IEC : 60309 -1&3 complete as per specification		
1	10 Amps Plug only	Each	92.00
2	10 Amps socket only	Each	95.00
3	20 Amps Plug only	Each	98.00
4	20 Amps socket only	Each	117.00
8.12	Supplying and installing of RCBOs (Residual current circuit breaker with overload and short circuit protection) ISI marked complete as per I.S. standard confirming to IEC:61009-2-1 & IS:12640-2:2001,240/415V 50 Hz with 10 kA short circuit withstand capacity for earth leakage,overload & short circuit protection including connection in existing enclosure in approved manner as per specification.		
8.12.1	DP(4 module)		
1	2 pole 6 to 25 Amps, 30 mA sensitivity	Each	1680.00
2	2 pole 32 Amps, 30 mA sensitivity	Each	1781.00
3	2 pole 40 Amps, 30 mA sensitivity	Each	1733.00
4	2 pole 63 Amps, 30 mA sensitivity	Each	3251.00
5	2 pole 6 to 25 Amps, 100 mA sensitivity	Each	1656.00
6	2 pole 32 Amps, 100 mA sensitivity	Each	1806.00
7	2 pole 40 Amps, 100 mA sensitivity	Each	1946.00
8	2 pole 63 Amps, 100 mA sensitivity	Each	3467.00
8.12.2	FP(8 module)		
1	4 pole 16 Amps, 30 mA sensitivity	Each	3236.00
2	4 pole 25-32 Amps, 30 mA sensitivity	Each	3364.00
3	4 pole 40 Amps, 30 mA sensitivity	Each	3138.00
4	4 pole 63 Amps, 30 mA sensitivity	Each	4137.00
5	4 pole 16 Amps, 100/300 mA sensitivity	Each	3304.00
6	4 pole 25-32 Amps, 100/300 mA sensitivity	Each	3432.00
7	4 pole 40 Amps, 100/300 mA sensitivity	Each	3432.00
8	4 pole 63 Amps, 100/300 mA sensitivity	Each	3972.00

S.No.	Description of Items	Unit	Rates (in Rs.)
8.13	FIXING OF SFUs, DBs,BUSBAR,MCCBs,MCBs, ISOLATORS & RCBOs		
	Fixing of metal clad enclosure on 25 X 5 mm flat iron clamps including supplying and fixing of clamps as required duly embedded in masonry including cable connection and other required material as per specification :-		
1	16 Amps SP/DP Switch /SPN DB up to 4 way	Each	130.00
2	32 Amps DP switch /SPN DB up to 8 way /16 Amp TPN DB up to 3 way per pole or 16 Amps TP or TPN switch / 16 Amps 415 V Isolator	Each	142.00
3	32 Amps TP or TPN switch/ 32 Amps 415 V Isolator / 16 Amps TPN DB up to 6 way per pole /32 Amps 415 Volt busbar 4 way	Each	154.00
8.14	Fixing of metal clad enclosure on 25X 25 X 5 mm angle iron clamps including supplying and fixing of clamps as required duly embedded in masonry including cable connection and other required material as per specification :-		
1	Fixing of 63 Amps TP or TPN main switches/ DB 63 Amps. 240/415 Volt 4 to 8 way or 63 Amps change over switch /63 Amps 415 Volt Isolator /30 Amps 415V TPN DB upto 6 way per pole and busbar 4 way	Each	243.00
2	Fixing of 100 Amps TP or TPN main switch or 100 Amps change over switch /100 Amps 415 Volt Isolators and busbar 4 way	Each	345.00
3	Fixing of 200 Amps TP or TPN main switch or 200 Amps change over switch /200 Amps 415 Volt Isolators and busbar 4 way	Each	471.00
8.15	Fixing of metal clad enclosure on 35X 35 X 5 mm angle iron clamps including supplying and fixing of clamps as required duly embedded in masonry including cable connection and other required material as per specification :-		
1	Fixing of 300/400 Amps TP or TPN main switch or 300/400 Amps change over switch /300/400 Amps 415 Volt Isolators and busbar 4 way	Each	493.00
2	Fixing of 500/600 Amps TP or TPN main switch or 500/600 Amps change over switch 500/600 Amps 415 Volt Isolators and busbar 4 way	Each	490.00
8.16	Fixing of MCB /MCCB/ Isolator		
1	Fixing of MCB / Isolator SP/DP in sheet steel enclosure as required as per accepted practice, including mounting on busbar and cable connection etc. complete (Labour only )	Each	17.00
2	Fixing of MCB /MCCB Isolator TP /TPN/FP in sheet steel enclosure as required as per accepted practice, including mounting on busbar and cable connection etc. complete.	Each	35.00
8.17	Labour charges for fixing sheet steel enclosure, MCB DB surface mounting type, as per accepted practice on 25x5mm flat iron clamps duly embedded in wall,cable connection etc. complete.		
	FOR S.No :-		
1	8.5 (1) to 8.5 (4)	Each	130.00
2	8.5 (5) & 8.5 to 8.6 (2)	Each	142.00

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
3	8.6 (3), 8.6(4) & 8.7 (1)	Each	154.00
8.18	Labour charges for fixing sheet steel enclosures, MCB DB surface mounting type,as per accepted practice on 25x25x 5 mm angle iron clamp,including supplying and fixing of clamps duly embedded in wall,cable connection etc. complete :- FOR S.No :-		
1	8.5(6) & 8.5(7), 8.6(5) to 8.6 (7) 8.7(2) & 8.7(3) & 8.8(1) to 8.8 (3)	Each	243.00
8.19	Labour charges for fixing sheet steel enclosures, MCB DB flush mounting type, as per accepted practice, duly embedded and end plate completely flushed in wall, cable connection etc.complete :- FOR S.No :-		
1	8.5(1) to 8.5(5), 8.6(1) to 8.6 (5) & 8.7(1)	Each	283.00
2	8.5(6) & 8.5(7), 8.6(6) to 8.6(7), 8.7(2) to 8.7(3) & 8.8(1) to 8.8(3)	Each	399.00



<b>CHAPTER NO.- 9</b>	
<b>ACCESSORIES, PANELS, LAMPS, TELEPHONE WIRES, FANS, LUMINAIRES</b>	
1	Rates include all lead and lift for all materials for all items unless otherwise specified.
2	The provision of scaffolding of ladder or any tools and plants required shall be deemed to be included in the items unless
3	Cutting through walls and floors, lifting up floor boards and re-fixing, cutting out plaster and making good all the work disturbed, notching or drilling holes through joists, etc. shall be deemed to be included with the item of work.
4	Description and Enumeration of fittings: -
	4.1 Ordinary Pendants
	4.1.1 Ordinary Pendants shall be described as including
	(a) Lamp holders, and
	(b) Required length of flexible cord.
	4.2 Stiff pendants.
	4.2.1 Stiff pendants shall be described as including-
	(a) Back plate,
	(b) Required length of conduit,
	(c) Adapter, and
	(d) Lamp holder,
	4.3 Plain Brackets.
	4.3.1 Plain brackets shall be described as including-
	(a) Back-plate,
	(b) Tumbling with nozzle, and
	(c) Lamp holder.
	4.4 Watertight Brackets,
	4.4.1 Watertight brackets shall be described as including –
	(a) Back-plate,
	(b) Conduit,
	© Gallery,
	(d) Reflector,
	(e) Well glass screw guard fitting,
	(f) Lamp holder, and
	(g) Rubber washers.
	4.5 Switches,
	4.5.1 When measured separately from point wiring, the switches shall be described stating the type and rated capacity. Cover plates, if any, shall be included with the item.
	4.5.2 Switch plug combination, comprising socket outlet, switch and plug shall be described, and the type and rated capacity shall be stated.
	4.6 Bulk-Head fittings,
	4.6.1 Bulk-head fittings shall be described as including-
	(a) Lamp holder (all insulated)
	(b) Reflector,
	(c) Water tight glass front, hinged and with wing nuts, and
	(d) Wire guard.
	4.7 Lamps,
	4.7.1 Lamps shall be described stating the type, wattage and voltage.
	4.8 Fluorescent-Lamp fittings,
	4.8.1 Fluorescent-lamp fittings shall be described as including-
	(a) Single tube or twin tube (stating the type and length),
	(b) Choke (ballast),
	(c) Capacitor,
	(d) Starter,
	(e) Lamp holders,
	(f) Starter- holders,
	(g) Reflector,
	(h) Back-plate
	(i) Inter-connecting wiring
	(j) Make and type of fitting, and
	(k) Louver or perplex panel
5	The provisions of scaffolding or ladder or any tools and plants required shall be deemed to be included in the items, unless otherwise stated.

6	Cutting through walls and floors, lifting up floor boards and refixing, cutting out plaster and making good all the work disturbed, notching or drilling holes through joists, etc. shall be deemed to be included with the item of work.		
<b>The following Indian Standards may be referred :-</b>			
	<b>S.No.</b>	<b>Standards</b>	<b>Title Codes of Practice/ Guide</b>
	1	IS:3646 (Part-1)- 1966	Code of practice for interior illumination Principles for good lighting and aspects of design.
	2	IS:3646 (Part-2)-1966	Code of practice for interior illumination: Schedule of illumination and glare index.
	3	IS:3646 (Part-3)-1968	Code of practice for interior illumination : Calculation of coefficients of utilization by the BZ method.
	4	IS:4347-1967	Code of practice for hospital lighting.
	5	IS:6665-1972	Code of Practice for industrial lighting.
	6	IS:2672-1966	Code of Practice for library lighting.
	7	IS:555-1979	Electric table type fans and regulators.
	8	IS:1169-1967	Electric pedestal type fans and regulators.
	9	IS:374-1979	Electric ceiling type fans and regulators.
	10	IS:2997-1961	Air circulator type electric fans and regulators.
	11	IS:2312-1967	Propeller type AC ventilating fans.
	12	IS:3588-1987	Electrical axial flow fans.
	13	IS:3963-1987	Roof Extractor units.
	14	IS:1283-1981	Hor air fan.
	15	IS:6272-1987	Industrial cooling fans (man coolers)
	16	IS:4894-1987	Centrifugal fans
	17	IS:11037-1984	Electronic type fan regulators.
	18	IS:12155-1987	General and Safety requirements for fans and regulators for household and similar purposes.
	19	IS:118-1978	Tungsten filament general service electric lamps.
	20	IS:2118(Part-1)-1977	Tubular fluorescent lamps for general lighting service: Requirements and tests.
	21	IS:9900(Part-1)-1981	High pressure mercury vapor lamps: Requirements and test.
	22	IS:9974(Part-1)-1981	High pressure sodium vapor lamps: General requirements and tests.
	23	IS:1258-1987	Bayonet lamp holders.
	24	IS:3323-1980	B1-pin lamp holders for tubular fluorescent lamps.
	25	IS:3324-1982	Holders for starters for tubular fluorescent lamps.
	26	IS:2215-1984	Starters for fluorescent lamps.
	27	IS:1534(Part-1)-1977	Ballast for fluorescent lamps: For switch start circuits.
	28	IS:1569-1976	Capacitors for use in tubular fluorescent high pressure mercury and low pressure sodium vapor discharge lamp circuits.
	29	IS:6616-1982	Ballasts for high pressure mercury vapor lamps.
	30	IS:1913(Part-1)-1978	General and safety requirements for luminaries: Tubular flu (2)
	31	IS:10322(Part-1)-1982	Luminaries : General requirements
	32	IS:10322(Part-2)-1982	Luminaries : Constructional requirements
	33	IS:10322(Part-5/Sec-1) 1987	Luminaries: Particular requirements : Recessed luminaries.
	34	IS: 10322(Part-5/Sec-3) 1987	Luminaries: Particulars requirements: Luminaries for road and street lighting.
	35	IS:10322 (Part-5/Sec-5) 1987	Luminaries: Particulars requirements: Portable general purpose luminaries
	36	IS:10322(Part-5/Sec-5) 1987	Luminaries: Particulars requirements : Floodlight
	37	IS: 3287-1965	Industrial lighting fittings with plastic reflectors.
	38	IS: 1777-1978	Industrial luminaries with metal
	39	IS:2206(Part-1)-1984	Flame proof electric lighting fittings : Well glass and bulk head types.
	40	IS:3528-1966	Water proof electric lighting fittings.
	41	IS:3553-1966	Water tight electric lighting fittings.
	42	IS:8030-1976	Luminaries for hospitals.
	43	IS:7537-1974	Road traffic signals.
	44	IS:9583-1981	Emergency lighting units.
	45	IS:302-1979	General and safety requirements for household and similar electrical appliances.
	46	IS:2268-1988	Electric call bells and buzzers for indoor use.
	47	IS:3412-1985	Electric water boilers.
	48	IS:4770-1991	Rubber gloves for electrical purposes.
	49	IS:5424-1969	Rubber mats for electrical purposes. (xv)
<b>Note:- The above IS Codes shall be applicable with latest amendments if any.</b>			

**CHAPTER - 9**

**ACCESSORIES/PANNEL/LAMP/TELEPHONE WIRES/FANS/LUMINARIES.**

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (In Rs.)</b>
9.1	Supplying and fixing as per specification Bakelite pendent Holder of approved make including flexible cord up to 3 Meter length with necessary materials complete	Each	21.00
9.2	Supplying and fixing as per specification Bakelite Batten Holder / Angle Holder of approved make with necessary materials complete	Each	18.00
9.3	Supplying and fixing as per specification Bulk Head fitting of approved make suitable for 100 Watt lamp with necessary materials complete. Ordinary	Each	63.00
9.4	Supplying and fixing as per specification Call bell / buzzer of approved make with necessary materials complete.		
1	Buzzer	Each	48.00
2	Ding Dong bell	Each	86.00
3	Musical bell	Each	190.00
4	Remote/cordless bell	Each	456.00
9.5	Supplying and fixing as per specification Call bell indicator 230 Volt A.C. of approved make with necessary materials complete.		
1	with 4 way Indicator	Each	1534.00
2	with 6 way Indicator	Each	2384.00
3	with 8 way Indicator	Each	3215.00
9.6	Supplying and fixing of multi core round HRFR / FR PVC insulated copper (flexible) conductor & PVC sheathed cables 1100 Volts as per IS:694-1990 of approved make		
1	(23/.0076) Three core	meter	13.00
2	(40/.0076) Three core	meter	24.00
9.7	Supplying and fixing in position incandescent lamp of approved make as per IS specification		
1	15 Watt 250 Volt	Each	9.00
2	25 Watt 250 Volt	Each	10.00
3	40 Watt 250 Volt	Each	11.00
4	60 Watt 250 Volt	Each	11.00
5	100 Watt 250 Volt	Each	13.00
6	200 Watt 250 Volt	Each	19.00
7	500 Watt 250 Volt	Each	66.00
8	1000 Watt 250 Volt	Each	118.00
9	5 Watt 250 Volt night lamp	Each	13.00
10	15 Watt 250 Volt coloured lamp	Each	13.00
9.8	Supplying and fixing as per specification socket outlet of approved make & ISI marked with necessary material complete		
1	6 Amp 250 Volt 3 Pin PB	Each	43.00
2	6 Amp 250 Volt 3 / 5 Pin Flush type	Each	20.00
3	16 Amp 250 Volt 3 Pin PB	Each	65.00
4	16 Amp 250 Volt 3 / 6 Pin Flush type	Each	68.00
5	10 Amps 250 Volt 3 Pin Modular type	Each	130.00
6	20 Amps 250 Volt 3 Pin Modular type	Each	199.00
9.9	Supplying and fixing of approved make 3 pin plug top ISI marked		

S.No.	Description of Items	Unit	Rates (In Rs.)
1	6 Amp 250 Volt 3 Pin	Each	46.00
2	16 Amp 250 Volt Pin	Each	61.00
9.10	Supplying and fixing as per specification Ball Socket of approved make with necessary material complete.	Each	24.00
9.11	Supplying and fixing as per specification Caution / Danger Board as required of approved make & design with necessary material complete.		
1	Small Size	Each	84.00
2	Large Size	Each	164.00
9.12	Supplying and fixing as per specification bakelite Ceiling rose 3 Plate of approved make ISI marked with necessary material complete.	Each	21.00
9.13	Supplying and fixing as per specification Switch of approved make ISI marked with necessary material complete.		
1	6 Amp S.P. porcelain Base 250 Volt	Each	43.00
2	16 Amp S.P. porcalane Base 250 Volt	Each	66.00
3	6 Amp Flush type	Each	13.00
4	16 Amp Flush type	Each	39.00
5	6 Amp S.P. 250 Volt two way Flush type	Each	20.00
6	10 Amps S.P.250 Volt Modular Switch	Each	19.00
7	20 Amps S.P.250 Volt Modular Switch	Each	44.00
8	10 Amps S.P.250 Volt Modular Switch 2 way	Each	55.00
9.14	Supplying and fixing as per specification 6 Amp 250 Volt Bell Push switch of approved make ISI marked with necessary material complete.		
1	10 Amps S.P.250 Volt Modular Switch Bell Push	Each	33.00
2	Flush Type	Each	21.00
	Locking arrangement for Switch Gear Mounting		
9.15	Supplying, fixing,testing & commissioning wall / floor mounted LT Panel primer coated with two coat of enamel paint & provided with required gasket for dust/ vermin proof with degree of protection IP42 suitable for 415V 3 phase ,50 Hz ,4 wire system fabricated out of CRCA sheet upto 2 mm thick (1.6 mm for doors) with frame work of angle iron/ channel/ bolted type construction duly compartmentalised for incomer,bus section , outgoing ,cable alleys & CT,PT Ampere Meter ,Volt Meter , selector switches,Frequency Meter ,phase indicating lamps , energy Meter complete including cost of busbar supports,detachable cable gland plates,2 earthing terminals, internal wiring & fixing of separately supplied MCBs, MCCBs ,panel mounted Changeover switch/SFUs, etc. as required but excluding cost of busbar strips,Ampere Meter, Volt Meter, Selector switch as per approved design & specification	Kg	84.00
9.16	Supplying and fixing of LT Panel accessories of approved make in existing LT Panel including connections etc.as required as per spececification		
1	Digital Ampere Meter with CTs with selector switch	per set	1802.00
2	Digital Volt Meter with selector switch & HRC fuse	per set	2051.00
3	Frequency Meter	Each	1128.00
4	Copper Bus bar strips with PVC sleeves	Kg	533.00
5	Aluminium bus bar strips with PVC sleeves	Kg	156.00
6	LED lamps	each	194.00

S.No.	Description of Items	Unit	Rates (In Rs.)
9.17	Supplying,Fixing and Testing of MPP condensor of approved make as required as per specification		
1	2.5 mfd.	Each	23.00
2	3.15 mfd	Each	33.00
3	4.00 mfd	Each	43.00
4	6.00 mfd	Each	75.00
5	10.00 mfd	Each	116.00
6	25.00 mfd	Each	185.00
7	30.00 mfd	Each	220.00
8	33.00 mfd	Each	264.00
9.18	Supplying,Fixing and Testing of Flourescent Tube rod ISI marked of approved make as required as per specification		
1	4' X 40 Watt	Each	45.00
2	4' X 36 Watt	Each	43.00
3	2' X 20 Watt	Each	43.00
4	2' X 18 Watt	Each	40.00
9.19	Supplying,Fixing and Testing of MV lamp ISI marked of approved make as required as per specification		
1	80 Watt	Each	155.00
2	125 Watt	Each	163.00
3	250 Watt	Each	368.00
4	400 Watt	Each	559.00
9.20	Supplying,Fixing and Testing of SV lamp SON-T (tubular clear type) ISI marked of approved make as required as per specification		
1	70 Watt	Each	400.00
2	150 Watt	Each	540.00
3	250 Watt	Each	603.00
4	400 Watt	Each	756.00
9.21	Supplying,Fixing and Testing of MH lamp Single ended type ISI marked of approved make as required as per specification		
1	70 Watt	Each	900.00
2	150 Watt	Each	925.00
3	250 Watt	Each	1094.00
4	400 Watt	Each	1150.00
9.22	Supplying,Fixing and Testing of MH lamp Double ended type ISI marked of approved make as required as per specification		
1	70 Watt	Each	675.00
2	150 Watt	Each	643.00
9.23	Supplying,Fixing and Testing of Compact Flourescent Lamp (CFL) with inbuilt electronic ballast ISI marked of approved make as required as per specification		
1	5 Watt	Each	119.00
2	8 Watt	Each	126.00
3	11 Watt	Each	141.00
4	15 Watt	Each	139.00
5	18 Watt	Each	163.00
6	20 Watt	Each	223.00
7	25 Watt	Each	243.00
8	30 Watt	Each	243.00
9	36 watt	Each	393.00

S.No.	Description of Items	Unit	Rates (In Rs.)
10	45 Watt	Each	683.00
11	65 Watt	Each	728.00
12	85 Watt	Each	775.00
9.24	Supplying,Fixing and Testing of Helogen Rod of approved make as required as per specification		
1	500 Watt	Each	75.00
2	1000 Watt	Each	105.00
9.25	Supplying,Fixing and Testing of Ball Bearing of approved make as required as per specification		
1	6201	Each	70.00
2	6202	Each	75.00
3	6203	Each	93.00
4	6204	Each	131.00
9.26	suppling and drawing following pair,0.5 Sq mm PVC Insulated copper conductor unarmoured telephone cable in existing surface / concealed ,steel / PVC Conduit as required.		
1	(i) 1 Pair	meter	50.00
2	(ii) 2 Pair	meter	52.00
3	(iii) 4 Pair	meter	66.00
9.27	suppling and drawing Co-axial T.V. Cable RG-6 Grade , 0.7 mm Solid Copper conductor PE Insulated , Shielded with fine tined copper braid and protected with PVC Sheath in the existing surface / concealed ,steel / PVC. Conduit as required.	meter	73.00
9.28	Suppling and fixing of approved make Resistance type Fan regulator including connection etc. as required on existing board	Each	46.00
9.29	Suppling and fixing of approved make step type electronic Fan regulator including connection etc. as required on existing board		
1	450 Watt	Each	133.00
9.30	Suppling and fixing of approved make electronic dimmer / regulator including connection etc. as required on existing board		
1	650 Watt	Each	186.00
2	1000 Watt	Each	219.00
9.31	Suppling and fixing of approved make step type Modular electronic, Fan regulator single/double module including connection etc. as required on existing board		
1	450 Watt	Each	170.00
2	650 Watt	Each	175.00
3	1000 Watt	Each	535.00
1	upto 120 watt	Each	450.00
9.32	Supplying, erection and testing of approved make electric Ceiling fan of double ball bearing complete with standard down rod, canopy, hanging shackle, Aluminium blades, without regulator, A.C. 230-250 volts including connections with all necessary material complete as required confirming to IS :374/1979 with upto date ammendments.		
1	Ceiling Fan (Energy Saver 50 W)-1200 mm Sweep	Each	1680.00
2	Ceiling Fan (Energy Saver 60 W)-1400 mm Sweep	Each	1838.00

S.No.	Description of Items	Unit	Rates (In Rs.)
9.33	Supplying, erection and testing of approved make Wall Mounting fan complete with Wall Bracket ,canopy, blades, speed Regulator etc .A.C 230-250 volts with connections and including raw bolt/Anchor hole fastener etc. complete finished and as required.		
1	300 sweep	Each	1688.00
2	400 sweep	Each	1725.00
9.34	Supplying, erection and testing of approved make Cabin fan oscillating type with base, blades, guard, speed regulator etc. AC 230-250 volts with connections and including raw bolt/Anchor hole fastener etc. complete finished and as required.		
1	300 sweep	Each	1693.00
2	400 sweep	Each	1839.00
9.35	Supplying, erection and testing of approved make 'Fresh Air Fan' AC 230-250 volts with connection and including frame bolt/Anchor hole fasteners etc. complete finished and as required.		
1	225mm sweep	Each	1013.00
2	300mm sweep	Each	1131.00
9.36	Supplying, erecting and testing of approved make Exhaust Fan heavy duty with mounting frame, blades AC 230-250 complete connection and including, frame bolt/ Anchor hole fastners etc. complete finished and as required.		
1	300mm sweep 900 RPM	Each	2520.00
2	380mm sweep 900 RPM	Each	2515.00
3	450mm sweep 900 RPM	Each	3675.00
9.37	Supplying and testing of approved make Pedestal fan A.C. 230-250 volts with blades speed regulator 'pedestal etc duly wired with all necessary material complete as required		
1	400 mm Sweep	Each	2205.00
2	450 mm Sweep	Each	2071.00
3	500 mm Sweep	Each	2536.00
	Fluorescent Tube Fitting		
9.38	Supplying, fixing and testing of approved make fluorescent tube fitting 36/40 watt , rust resistant, stove enamelled paint, box type channel with cover, complete with electronic ballast (HF) complete duly wired (without tube rod) as per specification & fixing as below:		
1	I) Fixing on wall/Ceiling on wooden round block with 'J' hook / Anchor hole fastners/hollow bow with rod fixed in Ceiling and other necessary materials including connections etc. and as required.	Each	666.00
2	II) Fixing by stiff pendant arrangement with two pieces of steel conduit 19/20 dia 16 SWG and other necessary materials such as ball socket, wooden round block with 'J' hook/Anchor hole fasteners fixed in Ceiling including connection and as required for length upto 1.5 Meter	Each	979.00
3	III) Fixing by pendant arrangement with two pieces of approved metallic chain and other necessary materials such as wooden block with 'J' hook Anchor hole fastner fixed in Ceiling including connection as required for length up to 1.5Meter	Each	902.00

S.No.	Description of Items	Unit	Rates (In Rs.)
9.39	Supplying, fixing and testing of approved make fluorescent tube fitting 36/40 watt, rust resistant, stove enamelled paint, CRCA sheet steel housing with white stove enamelled reflector complete with copper ballast complete duly wired (without tube rod) as per specification & fixing.	Each	497.00
9.40	Supplying, fixing and testing of approved make fluorescent single & double tube fitting 36/40 watt, rust resistant, stove enamelled paint, CRCA sheet steel housing with opal acrylic diffuser and decorative end plates complete with copper ballast complete duly wired (without tube rod) as per specification & fixing .		
1	1 x 40/36 watt	Each	920.00
2	2x36/40 watt	Each	902.00
9.41	Supplying, fixing and testing of approved make surface mounting mirror optics luminaires for single/twin 36/40 watt fluorescent lamp comprising of white powder coated CRCA sheet steel housing raw silk / navy brown / white colour M.S. low profile flat housing complete with all accessories i.e. electronic ballast (HF) duly wired (without tube rod) and high purity anodised aluminium reflector assmebly along with cross louvers as per specification and fixing as below:-		
9.41.1	Fixing on wall/Ceiling on wooden round block with 'J' hook/Anchor hole fastener fixed in Ceiling and other necessary materials including connectons etc. and as required.		
1	1x36/40w	Each	1516.00
2	2x40w	Each	2198.00
9.41.2	Fixing by stiff pendant arragement with two pieces of steel conduit 19/20mm dia 16 SWG and other necesssary materials such as ball socket, T.W. block with 'J' hook/ Anchor hole fastner fixed in Ceiling including connections and as required for length upto 1.5 Meter.		
1	1x40w	Each	1546.00
2	2x36/40w	Each	2229.00
9.41.3	Fixing by pendant arrangment with two pieces of approved metallic chain and other necessary materials such as T.W. block with 'J' hook/ Anchor hole fastner fixed in Ceiling including connections and as required for length upto 1.5 Meter.		
1	1x40w	Each	1530.00
2	2x40w	Each	2219.00
9.42	Supplying, fixing and testing of approved make surface mounting mirror optics luminaires for single/twin 36/40 watt fluorescent lamp comprising of white powder coated CRCA sheet steel housing raw silk / navy brown / white colour M.S. low profile flat housing complete with all accessories i.e. copper ballast duly wired (without tube rod) and high purity anodised aluminium reflector assmebly along with cross louvers as per specification and fixing as below.		
9.42.1	Fixing on wall/Ceiling on wooden round block with 'J' hook/Anchor hole fastener fixed in Ceiling and other necessary materials including connectons etc. and as required.		
1	1x36/40w	Each	1489.00
2	2x40w	Each	1827.00
	Mirror Optics (recessed/concealed)		



S.No.	Description of Items	Unit	Rates (In Rs.)
9.43	Supplying, fixing and testing of approved make recess mounting mirror optics luminaires for single/twin 36/40 watt fluorescent lamp comprising of white powder coated CRCA sheet steel housing raw silk / navy brown / white colour M.S. low profile flat housing complete with all accessories i.e. electronic ballast (HF) duly wired (without tube rod) and high purity anodised aluminium reflector assembly along with cross louvers as per specification and fixing .		
1	1x40 Watt	Each	1446.00
2	2x40 Watt	Each	2134.00
9.44	Street Lights		
	Supplying, fixing and testing of approved make street/ road light fitting complete with copper wound polyster choke, lamp holder,starter holder, starter duly wired, side entry with clear acrylic cover with fixing clamps (without tube rod) including fixing with 20mm dia G.I. pipe medium class of required length upto 2 Meter for mounting on wall/existing pole, on existing"D" Bracket including bending the pipe to required shape and connectios including all materials as required.		
1	1x40 Watt	Each	1446.00
2	2x40 Watt	Each	2026.00
9.45	BULK HEAD		
	Supplying, fixing and testing of approved make bulk head luminaire consisting of pressure die aluminium housing lamp holder, prismatic glass cover, rubber gasket and wire guard, delux type, including fixing on wall as required, with necessary material complete Fitting(suitable for GLS w/o lamp upto 11 watt Retorted CFL)	Each	631.00
9.46	Supplying, fixing and testing of approved make high pressure M.V. fitting, consisting of cast aluminium cotrol gear housing, highly polished reflector, highly transparent acrylic hinged cover, complete with taped polyster choke, capacitor, connector etc. suitable for end mounting duly wired (without lamp) including fixing with 25 / 30mm dia G.I. pipe medium class of required length upto 2 Meter for mounting on wall / existing pole/on existing 'D' bracket, including bending the pipe to required shape and connections including all materials as required.		
1	80 Watt	Each	2593.00
2	125 Watt	Each	3318.00
3	250 Watt	Each	3670.00
4	400 Watt	Each	4895.00
9.47	H.P. Sodium Vapour Fitting		
	Supplying, fixing & testing of approved make H.D. Sodium vapour fitting consisting of matallic cast aluminium alloy housing highly polished anodised aluminium reflector clear acrylic cover, gasket and equipped with accessories; such as ballast, condensor, ignitor, skirted ceramic lamp holder (without lamp) suitable for end mounting duly wired, including fixing with 32/38 mm dia G.I. pipe medium class of required length upto 2 Meter for mounting on wall/exisiting pole/on existing D bracket including bending the pipe to required shape and connections including all materials as requiried.		
1	70 watt	Each	3662.00
2	150 watt	Each	3139.00
3	250 watt	Each	5317.00
4	400 watt	Each	5387.00

S.No.	Description of Items	Unit	Rates (In Rs.)
9.48	Supplying ,fixing and testing of approved make of H.P.Sodium vapour side road lighting/ main road lighting lantern consisting of single piece cast aluminium housing complete with all accessories suitable for tubular 70W /150W /250W/HPSV lamp pot type high purity ALGLAS coated electromechanically brightened anodized aluminium reflector/ with ripples embossing above the lamp, lamp holder, clear acrylic cover & 3/5 stainless steel toggle, ignitor & ballast, condensor(without lamp) i/c fixing with 32/38 mmdia G.I. pipe medium class of required length upto 2 mtr. for mounting on wall/existing pole/on existing "D" bracket i/c bending the pipe to required shape and connections, i/c all material as required & suitable for:		
1	70 Watt	Each	2201.00
2	150 Watt	Each	2188.00
3	250 Watt	Each	3880.00
9.49	Flood Lighting		
	Supplying, fixing & testing of approved make of intergal type compact flood light fitting consisting of cast aluminium housing complete with all accessories ALGLAS coated aluminium reflector, lamp holder heat resisting toughned clear glass cover and mounting bracket with aiming disc, including fixing & connections as required in position with all necessary materials required, suitable for single ended tubular lamp (without lamp)		
1	150 Watt S.V. Lamp	Each	7107.00
2	150 Watt metal halide Lamp	Each	7897.00
9.50	Supplying, fixing & testing of approved make H.D. asymmetrical beam flood light fitting suitable for tubular single lamp consisting of cast aluminium housing 'ALGLAS coated aluminium faceted reflector assly toughned glass cover, mounting bracket and aiming disc, seperate control gear box required for HPSV/M.H. Lamp (without lamp) including fixing & connection as required in position with all necessary material required		
1	250 watt S.V. Lamp/Metal Halide with control gear box.	Each	5628.00
2	400 Watt S.V. Lamp/metal Halide with control gear box	Each	7956.00
	POST TOP LANTERNS		
9.51	Supplying, fixing & testing of approved make of integral type decorative post top lantern consisting of aluminium canopy opal acrylic bottom cover and cast aluminium spigot complete with all accessories and control gear box (without lamp) including fixing on gate pillers/ existing G.I. pipe, pole with connection and all required material on required size of G.I. pipe, suitable for -		
1	125 Watt M.V. lamp	Each	3805.00
2	70 Watt S.V. Lampwith ignitor	Each	3999.00
9.52	Supplying, fixing & testing of approved make of integral mushroom type roto moulded/Diamond shaped roto moulded post top lantern, consisting of cast aluminium spigot complete with all accessories, lamp holder, control gear box( without lamp) including fixing on gate Pillers/exiting G.I. pipe, pole with connection & all required materials on required size of G.I. pipe, suitable for		
1	125 Watt M.V. lamp	Each	3919.00
2	70 Watt S.V. Lampwith ignitor	Each	3942.00

S.No.	Description of Items	Unit	Rates (In Rs.)
	LOW WATT MOUNTINGS		
9.53	Supplying, fixing & testing of approved make of low watt surface mounting luminaires, made of white powder coated CRCA sheet steel housing with aluminium mirror reflector complete with control gear, wired upto terminal block on a detachable tray including fixing on wall/ Ceiling on wooden round block including wiring & connection as required and suitable for CFL as following :- (without lamp)		
1	2 nos. 11 watt CFL	Each	1167.00
2	2 no. 18 watt CFL	Each	1277.00
3	2 Nos 36 watt CFL	Each	2465.00
4	3 Nos 36 watt CFL	Each	3152.00
9.54	Supplying, fixing & testing of approved make of low watt recessed mounting luminaire made of CRCA sheet steel housing with false Ceiling lips finished in stove enamelled white inside/outside fitted with high purity anodised aluminium mirror reflector and complete with control gear, including fixing with recessed mounting arrangement with necessary materials connection etc. complete as required and suitable for single/twin 9 & 11 watt CFL (without lamp)		
1	2 nos. 11 watt CFL aluminium mirror reflector	Each	1520.00
2	2 nos. 36 watt CFL ( 595 mm X 595 mm ) aluminium darklight reflector	Each	2467.00
3	2 no. 36 watt CFL ( 295 mm X 595 mm ) aluminium mirror reflector	Each	2824.00
4	3 Nos 36 watt CFL aluminium mirror reflector	Each	2768.00
5	3 Nos 36 watt CFL (597 mm X 597 mm ) aluminium darklight reflector	Each	2875.00
9.55	Supplying, fixing & testing of approved make of low watt surface / recessed mounting CFL down lighter luminaire with white powder coated aluminium cover with anodised aluminium reflector with necessary materials connection etc. complete as required (without lamp)		
1	CFL 1 X 10 / 13 / 18 watt	Each	858.00
2	CFL 2 X 13 / 18 watt	Each	1107.00
9.56	Supplying, fixing & testing of approved make of low watt CFL roadway / street light luminaire with epoxy powder coated sheet aluminium / steel housing with epoxy white powder coated CRCA sheet steel gear tray ,clear acrylic cover with necessary materials connection including mounting with GI pipe 32 mm OD, clamps on existing wall / pole etc. complete as required (without lamp)		
1	CFL 1 X 9 / 11 watt	Each	1107.00
2	CFL 1 X 13 / 18 watt	Each	1096.00
3	CFL 2 X 11 watt	Each	1096.00
4	CFL 2 X 18 watt	Each	1213.00
5	CFL 1 X 36 watt	Each	1213.00
9.57	Supplying, fixing & testing of approved make of T- 5 lamp channel luminaire with plastic extruded housing with in-built electronic control gear with decorative end caps with necessary materials connection etc. complete as required (with lamp)		
1	T - 5 Lamp 1 X 28 watt	Each	556.00
9.58	Supplying, fixing & testing of approved make of T- 5 lamp channel luminaire with epoxy white powder coated CRCA sheet steel housing with reflector cover with necessary materials connection etc. complete as required (with lamp)		

S.No.	Description of Items	Unit	Rates (In Rs.)
1	T - 5 Lamp 1 X 28 watt	Each	556.00
9.59	Supplying and fixing of Delux fresh air fan with louvers ( ventilating fan ) with self closing louvers of decorative PVC blades mounting square frame of approved make complete with all necessary material as required		
1	150 mm	Each	1444.00
2	200 mm	Each	1518.00
3	250 mm	Each	1483.00
9.60	supplying and fixing of Cooler Kit including cooler fan 450 mm ISI marked and Vertical pump complete with all necessary material as required	Each	2317.00
9.61	supplying and fixing of cooler / A.C. MS angle iron stand including flat iron supports, including grouting in wall if required, welding ,painting with primer and two coat of superior quality paint complete.	Kg	70.00
9.62	Supplying,Fixing and Testing of Flourescent Tube rod T-5 ISI marked of approved make as required as per specification		
1	14 watt T-5	Each	88.00
2	21 watt T-5	Each	106.00
3	24 watt T-5	Each	119.00
4	28 watt T-5	Each	101.00
9.63	Supplying,Fixing and Testing of Compact Flourescent Lamp (CFL) without electronic ballast ISI marked of approved make as required as per specification		
1	9 Watt	Each	61.00
2	11 Watt	Each	65.00
3	18 Watt	Each	138.00
4	36 watt	Each	166.00
9.64	Supplying, Erection & Commissioning of 3 mtr. Long garden light pole having base pipe 114mm dia 1 meter long & 2 meter pipe 60mm dia. Total length 3 mtr. Base plate size 300x300x12mm with in built installation facility of MCB 4 pole will be installed on 600mm long 4 nb. Foundation bolt of 20mm thickness E.N. grade material. The Foundation bolt having 20mm thickness is 600mm long grouted in payal of atleast 350mm dia 750mm in depth in concrete mix of ratio 1:3:6 using 0.30 cum above 200mm ground level complete finished with fine plaster. (overall weight including of foundation bolt & Base plate will be 42 Kg.)	Each	3360.00
9.64.1	Supply & installation of following garden accessories.		
9.64.1.1	Coloured lamp 70w ISI marked	Each	733.00
9.64.1.2	Coloured lamp 150w ISI marked	Each	880.00
9.64.1.3	Coloured lamp 250w ISI marked	Each	1115.00
9.64.1.4	Coloured lamp 400w ISI marked	Each	1399.00
9.64.2	Round P.V.C. dom reknowned make ISI marked		
9.64.2.1	200mm to 300mm	Each	198.00
9.64.2.2	300mm to 600mm	Each	345.00
9.64.3	Decorative dom reknowned make ISI marked		
9.64.3.1	200mm to 300mm	Each	435.00
9.64.3.2	300mm to 600mm	Each	630.00

S.No.	Description of Items	Unit	Rates (In Rs.)
9.65	Supply & Installation G.I. pipe for protection of under ground cable with required material laid 600mm depth below ground level including excavation in all types of soil & refilling as per direction of the Engineer-in-charge.		
9.65.1	25mm dia G.I. Pipe	Meter	131.00
9.65.2	50mm dia G.I. Pipe	Meter	252.00

**CHAPTER - 10**  
**MISCELLANEOUS**

S.No.	Description of Items	Unit	Rates (In Rs.)
10.1	Fixing of Flourescent Tube fitting on wall /ceiling on wooden round block with anchor fastener /J hook & necessary material including connection with 3 core flexible wire etc. complete as required.	Each	96.00
10.2	Fixing of Flourescent Tube fitting on wall with two approved type swan neck steel conduit brackets on wooden round block with anchor fastener /J hook & necessary material including connection with 3 core flexible wire etc. complete as required.	Each	203.00
10.3	Fixing of Flourescent Tube fitting with pendant arrangement of two pieces of approved metallic chain with necessary material including connection with 3 core flexible wire etc. complete as required.		
1	For pendent length up to 1.5 meter	Each	197.00
2	Add additional pendent length in excess of 1.5 meter	meter	75.00
10.4	Fixing of Flourescent Tube fitting with stiff pendant arrangement of two pieces of steel conduit and with anchor fastener /J hook & other necessary material including connection with 3 core flexible wire etc. complete as required.		
1	For pendent length up to 1.5 meter	Each	337.00
2	Add additional pendent length in excess of 1.5 meter	meter	191.00
10.5	Fixing of Flourescent Tube recessed / concealed mounting Fitting in existing recesses with necessary material including connection with 3 core flexible wire etc. complete as required.	Each	159.00
10.6	Supplying and fixing fan clamps of 16 mm dia steel bar as per specification complete :-		
1	For stone slab roof "J" Type hook	Each	122.00
2	For R.C.C. Slabs / Beams	Each	37.00
3	For existing old R.C.C. Slabs / Beams	Each	114.00
10.7	Supplying and fixing fan clamps with hook on existing T.W. beam/ trusses with required size flat iron etc.as per specification complete :-	Each	74.00
10.8	Erection of ceiling fan in position with regulator on existing switch board including wiring , testing etc. with necessary material complete as required.	Each	131.00
10.9	Fixing of fan Regulator on existing switch board in position with necessary material connection etc.complete as required.	Each	35.00
10.10	Erection of exhaust fan / wall bracket fan/cabin fan in position with required PVC cable, rawl bolts etc. complete including connections and making wall surface good.	Each	55.00
10.11	Supplying and fixing down rod of MS pipe for ceiling fan including threading, painting, making holes etc. as required complete :-	meter	115.00

S.No.	Description of Items	Unit	Rates (In Rs.)
10.12	Numbering of ceiling fans or fittings with approved paint including all labour material etc. complete as required :-		
1	Lettering up to 7 cm height	Each	3.00
2	Lettering above 7 cm but up to 15 cm height	Each	4.00
10.13	Providing and fixing pilot lamp over Main Distribution Fuse Boards / Boxes with 16 mm bracket with lamp holder , paw shade, controlling switch , including wiring and other necessary material as required	Each	82.00
10.14	Providing and fixing wooden board of suitable size (maximum 12" X 18" ) for fixing of house service meter with necessary materials and connection testing etc. complete as per specification :		
1	Single phase meter	Each	130.00
2	Three phase meter	Each	130.00
10.15	Chemical Servicing of Window /Split Air Conditioning unit 1.5 TR/2 TR capacity including cleaning of cooling & condensing units, filters, grills etc & all other parts oiling & greasing of fan motor testing of A.C unit etc.	Each	712.00
10.16	Providing & refilling of wood wool / Khas pads of normal size cooler panels 3 Nos including scraping of old paint, making surface even, painting with red oxide primer & two coats of paint of required shade including fixing new wiremesh complete.	Each	643.00
10.17	Servicing & overhauling of cooler fan motor, pump including replacement of distribution & delivery pipes, PVC elbows, painting etc. as reqd. complete with necessary material & labour including replacement of connection leads.	Each	361.00
10.18	Rewinding of fans by copper enamelled wire of suitable gauge including all required material, insulation, varnishing, connection leads, oiling .greasing etc complete with testing including dismantling & refitting of fan at site. Scrap old material is not returnable to the department.		
1	Ceiling Fan 1400 mm sweep new model / Exhaust Fan 380 mm sweep	Each	588.00
2	Ceiling Fan 1200 mm sweep new model / Exhaust Fan 300 mm sweep	Each	592.00
3	Fresh Air Fan up to 300 mm sweep / Wall Bracket /Cabin Fan 400 mm sweep	Each	475.00
10.19	Cleaning, overhauling, servicing of ceiling / Exhaust / Wall bracket fan by applying grease & oil, including testing with mounting / Hanging arrangement including replacement of safty pins, check nuts, lock nut, nut bolts etc. making perfect allignment & refitting at site as required.	Each	198.00
10.20	Supplying & Fixing of Batten type Tube fitting (Channel Type) single 4' x 40 / 36 watts complete with copper wound choke, rotor holders, starter holder, starter duly wired ( without tube rod ) on wooden block with necessary materials complete as required.	Each	316.00

S.No.	Description of Items	Unit	Rates (In Rs.)
<b><u>LABOUR RATES FOR WIRING</u></b>			
10.21	Labour rate for point wiring a Light / Fan / Twin control light / Socket out let on seperate board / Call bell Point in (open) surface rigid steel conduit system.	Each	152.00
10.22	Labour rate for point wiring a Light / Fan / Twin control light / Socket out let on seperate board / Call bell Point in recessed/concealed rigid steel conduit system.	Each	488.00
10.23	Labour rate for point wiring a Light / Fan / Twin control light / Socket out let on seperate board / Call bell Point in (open) surface rigid PVC conduit system.	Each	158.00
10.24	Labour rate for point wiring a Light / Fan / Twin control light / Socket out let on seperate board / Call bell Point in recessed/concealed rigid PVC conduit system.	Each	870.00
10.25	Labour rate for point wiring a Power Point in surface rigid steel conduit system including labour for fixing earth continuity conductor .	Each	691.00
10.26	Labour rate for point wiring a Power Point in recessed/concealed rigid steel conduit system including labour for fixing earth continuity conductor .	Each	1139.00
10.27	Labour rate for fixing rigid steel conduit in surface /concealed conduit wiring system, as per specification .		
1	20 mm Conduit	meter	68.00
2	25 mm & 32 mm Conduit	meter	69.00
3	40 mm & 50 mm Conduit	meter	71.00
10.28	Labour rate for rewiring a Light / Fan / Twin control light / Socket out let on seperate board / Call bell Point in rigid steel / rigid PVC non metallic conduit in (open) surface conduit wiring system.	each	239.00
10.29	Labour rate for rewiring a Light / Fan / Twin control light / Socket out let on seperate board / Call bell Point in rigid steel / rigid PVC non metallic conduit in recessed/concealed conduit wiring system.	each	239.00
10.30	Labour rate for fixing rigid PVC conduit as per specification in recessed/concealed conduit wiring system.		
1	20 mm Conduit	Each	44.00
2	25 mm & 32 mm Conduit	Each	46.00
3	40 mm & 50 mm Conduit	Each	53.00
10.31	Labour rate for drawing cables in existing rigid steel conduit ( surface or recessed/concealed ) "A" 2 Wires --		
1	2.5 sq mm / 4 sq mm / 6 sq mm	meter	39.00
2	10 sq mm / 16 sq mm / 25 sq mm	meter	47.00
3	35 sq mm / 50 sq mm	meter	47.00
10.32	"B" 3 Wires & 4 Wires		
1	2.5 sq mm / 4 sq mm / 6 sq mm	meter	43.00
2	10 sq mm / 16 sq mm / 25 sq mm	meter	44.00
3	35 sq mm / 50 sq mm	meter	45.00
10.33	<b>Items regarding civil works shall be taken and executed on the basis of rates of respective current CIVIL UADD SOR.</b>		



**CHAPTER - 11**

**EARTHING**

<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (In Rs.)</b>
11.1	Earthing with G.I. Earth pipe 4.5 meter long and 40 mm dia with masonry enclosure in cement mortar, cover plate having locking arrangement on the top etc.(but without charcoal or coke and salt) complete as required.	Each	1926.00
11.2	Add Extra for using salt and charcoal / coke for pipe earth electrode as required including excavation & refilling.		
1	Excavation 2.5 cum by manual labour	Each	787.00
2	Excavation by making hole with Auger	Each	733.00
11.3	Earthing with G.I. Earth plate 600mm X 600mm X 6mm thick including accessories and providing masonry enclosure in cement mortar, cover plate having locking arrangement on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt ) complete as required.	Each	2439.00
11.4	Earthing with Copper Earth plate 600mm X 600mm X 3mm thick including accessories and providing masonry enclosure in cement mortar, cover plate having locking arrangement on the top and G.I. watering pipe 20mm dia 2.7 meter long etc. (but without charcoal or coke and salt) complete as required.	Each	7064.00
11.5	Add Extra for using salt and charcoal / coke for G.I. Plate or Copper plate earth electrode as required including excavation & refilling.	Each	485.00
11.6	Supplying and laying 8 SWG copper wire at 0.5 meter below ground level as conductor earth electrode including soldering etc. as required.	meter	78.00
11.7	Supplying and laying 6 SWG G.I. wire at 0.5Meter below ground level as conductor earth electrode including soldering etc. as required.	meter	15.00
11.8	Supplying and laying 25mm X 5mm G.I. strip at 0.5 meter below ground level as strip earth electrode including soldering etc. as required.	meter	59.00
11.9	Supplying and laying 25mm X 6mm G.I. strip at 0.5 meter below ground level as strip earth electrode including soldering etc. as required.	meter	69.00
11.10	Providing & fixing 25mm X 5mm copper strip in 40mm dia G.I.pipe from earth electrode as required.	meter	892.00
11.11	Providing & fixing 25mm X 5mm G.I.strip in40mm dia G.I. Pipe(B class) from earth electrode as required.	meter	263.00

S.No.	Description of Items	Unit	Rates (In Rs.)
11.12	Providing and laying earth connections from earth electrode with 4.00 mm dia G.I. wire in 15mm dia G.I. Pipe(B class) from earth electrode as required.	meter	97.00
11.13	Providing and laying earth connections from earth electrode with 4.00 mm dia copper wire in 15mm dia G.I. Pipe(B class) from earth electrode as required.	meter	148.00
11.14	Providing & fixing 25mm X 5mm copper strip on surface or recessed for connection etc. as required.	meter	776.00
11.15	Providing and fixing 25mm X 4mm G.I. strip on surface or in recessed/concealed for connection etc. as required.	meter	108.00
11.16	Providing and fixing 4.00mm G.I. wire on surface or in recessed/concealed for loop earthing as required.	meter	39.00
11.17	Providing and fixing 4.00mm copper wire on surface or in recessed/concealed for loop earthing as required.	meter	98.00
11.18	Supplying and drawing 4.00 sq.mm.Aluminium conductor wire for loop earthing in the existing surface/ recessed/concealed conduit along other wires as required.	meter	24.00
	<b>LIGHTNING CONDUCTOR</b>		
11.19	Providing and fixing of lightning conductor finial made of 25mm dia 300mm long copper tube having single prong at top with 85 mm dia 3 mm thick copper base plate including holes complete as required.	Each	1285.00
11.20	Providing and fixing of lightning conductor finial made of 25mm dia 300mm long G.I. tube having single prong at top with 85 mm dia 6 mm thick G.I. base plate including holes complete as required.	Each	517.00
11.21	Fixing of lightning conductor finial made of 25mm dia 300mm long copper tube / G.I. tube having single prong at top with base plate etc.complete as required.	Each	177.00
11.22	Rivetting / Sweating and soldering of copper / G.I. Tape (with another copper / G.I. Tape, base of finial or any other metallic object ) as required.	Each	111.00
11.23	Providing and fixing copper tape 20mm X 3mm thick on parapet and surface of wall of lightening conductor as required ( for Horizontal runs )	meter	326.00
11.24	Providing and fixing copper tape 20mm X 3mm thick on parapet and surface of wall of lightening conductor as required ( for Vertical runs )	meter	352.00
11.25	Providing and fixing G.I. tape 20mm X 3mm thick on parapet and surface of wall of lightening conductor as required ( for Horizontal runs )	meter	51.00

S.No.	Description of Items	Unit	Rates (In Rs.)
11.26	Providing and fixing G.I. tape 20mm X 3mm thick on parapet and surface of wall of lightening conductor as required ( for Vertical runs )	meter	77.00
11.27	Fixing of copper / G.I. Tape 20mm X 3mm thick on parapet and surface of wall for lightening conductor as required ( for Horizontal runs )	meter	27.00
11.28	Fixing of copper / G.I. Tape 20mm X 3mm thick on parapet and surface of wall for lightening conductor as required ( for Vertical runs )	meter	53.00
11.29	Providing and fixing " Testing Joint" made by 20mm X 3mm thick copper strip 125mm long with 4 Nos of tinned Brass bolts, Nut, check nuts and spring washers etc. complete as required .	Each	210.00
11.30	Providing and fixing " Testing Joint" made by 20mm X 3mm thick G.I. strip 125mm long with 4 Nos of G.I. bolts, Nut, check nuts and spring washers etc. complete as required .	Each	69.00
11.31	Providing and laying copper tape 32mm X 6mm thick for earth electrode directly in ground as required	meter	1035.00
11.32	Providing and laying G.I. tape 38mm X 6mm thick for earth electrode directly in ground as required .	meter	111.00
11.33	Laying of copper / G.I. tape 32mm X 6mm thick for earth electrode directly in ground as required.	meter	23.00
<b>EARTHING FOR DOMESTIC ELECTRIC INSTALLATION</b>			
11.34	Providing and fixing earthing arrangement with 16mm dia 2.5 meter long galvanized iron or steel rod electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	678.00
11.35	Providing and fixing earthing arrangement with 38.1mm dia 2.5 meter long galvanized iron pipe electrode including packing of charcoal powder and salt as per specification watering pipe 19mm dia G.I. Connection etc. complete with refilling the pit as required, but excluding the excavation of earth pit.	Each	970.00
11.36	Supplying and laying G.I. earth lead duly installed on wall or in G.I. Pipe including connections etc.complete as required.		
1	13 sq mm ( 4 mm dia )	meter	9.00
2	25 sq mm ( 5.6 mm dia )	meter	9.00
3	40 sq mm ( 7.1 mm dia )	meter	21.00
11.37	Providing and laying earth continuity conductor including fixing with copper clamps and other necessary materials as per specification along the run of conduit.		

S.No.	Description of Items	Unit	Rates (In Rs.)
(A)	Aluminium Earth Continuity Conductor :-		
1	6 Sq mm.	meter	9.00
2	10 Sq mm.	meter	9.00
3	16 Sq mm	meter	9.00
4	25 Sq mm.	meter	25.00
(B)	G.I. Or Steel Earth Continuity Conductor :-		
1	6 Sq mm.	meter	9.00
2	10 Sq mm.	meter	9.00
11.38	Providing and laying earth Continuity Conductor of 4 Sq mm Aluminium along the run of final sub circuit in PVC conduit in an approved manner.	meter	9.00
11.39	Supplying and drawing PVC insulated copper cable ( Earth Continuity Conductor ) of Green colour FR with copper multi strand conductor ISI marked in existing conduit along with other wires as required as per specification :		
1	4 Sq mm	meter	43.00
2	6 Sq mm.	meter	57.00
3	10 Sq mm.	meter	85.00
4	16 Sq mm	meter	140.00
5	25 Sq mm.	meter	170.00
11.40	Supplying and erecting earth pit of minmum bore dia 150 mm size, approved make safe earthing electrode consiting pipe in pipe tecnologie as per IS 3043-1987 made of corriosion free GI pipes having outer pipe dia of 50 mm having 80-200 micron galvanising, inner pipe dia of 25 mm having 20-250 micron galavinsing, connection teriminal dia of 12 mm with constent OHMIC value sourrounded by highly conductiv compund with high charge disipation sutible for effective and maintence free earthing		
1	with 2 mtr. Pipe in normal soil with 25 kg (one bag) back filling compound	each	6480.00
2	with 3 mtr. Pipe in normal soil with 50 kg (two bag) back filling compound	each	9720.00
3	with 2 mtr. Pipe of 80 mm outer dia, 40 mm inner dia and 14 mm terminal dia, in soft rock/marshy soil with 25 kg (one bag) back filling compound	each	13638.00
4	with 3 mtr. Pipe of 80 mm outer dia, 40 mm inner dia and 14 mm terminal dia, in soft rock/marshy soil with 25 kg (two bag) back filling compound	each	15902.00
11.41	Providing back filling compund suitable for safe earthing device.	kg	63.00

<b>CHAPTER - 12</b>			
<b>DISMANTLING OF CIVIL AND ELECTRICAL WORKS</b>			
<b>S.No.</b>	<b>Description of Items</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
12.1	Dismantling of existing light / Fan / Bell / Socket out let point on separate board / Wiring with insulated wire in casing / conduit / Batten complete with fitting and accessories	point	17.00
12.2	Making the site clear of the dismantling installation by refilling the hole with cement mortar & finished with paint gitties and replacing to match the colour of wall & ceiling.	point	21.00
12.3	Dismantling of existing socket outlet point on same board in any system of wiring	point	14.00
12.4	Dismantling the existing armoured / unarmoured cable or single core wires of submain, main , circuit in any system of wiring including recoiling.	meter	15.00
12.5	Dismantling of existing underground cable safely with its accessories and refilling the trench to ground level including recoiling of dismantled cable.	meter	29.00
12.6	Dismantling of D.F. Board, D.P. Switch, T.P. & T.P.N. Switch or D.B. of any size complete with board or angle / flat iron frame and making site clear including the refilling hole & repainting to match colour of wall.	Each	18.00
12.7	Dismantling of D.F. Board , D.P.Switch , T.P. & T.P.N. Switch or D.B. of any size only	Each	16.00
12.8	Dismantling the existing Ceiling / exhaust / cabin fan with complete accessories and making the site clear.	Each	32.00
12.9	Dismantling of existing steel pole, R.S.Joist, girder with bracket clamps insulator or stay from the cement concrete foundation and making the site clear by refilling the pit to ground level.	Each	696.00
12.10	Dismantling of existing water tight flourescent tube fitting / M.V. Lamp fitting with making the site clear.	Each	23.00
12.11	Dismantling of existing water tight fitting / M.V. Lamp fitting with extension bracket, clamp from pole or wall with making the site clear.	Each	32.00
12.12	Dismantling of existing geyser or storage type water heater and making the site good by colour wash etc.as required.	Each	62.00
12.13	Providing recess in brick wall suitable for erection of exhaust fan up to 450 sweep complete with grouting of nut bolts, plastering and colour wash to match the colour of wall.		
1	For wall thickness up to 9"	Each	436.00
2	For wall thickness up to 15"	Each	806.00
3	For the stone wall thickness up to 15"	Each	1052.00

# EXTERNAL ELECTRIFICATION

**CHAPTER- 13**

**EXTERNAL ELECTRIFICATION AND OVERHEAD LINES**

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
	SUPPORT FOR OVER HEAD LINE		
13.1	Supply of support for overhead line Rail pole of I.S. standard including welding, drilling of required hole etc. complete as required.		
1	Rail pole standard weight 52 kg per meter	meter	2235.00
2	Rail pole std. weight 26 kg per meter	meter	1208.00
3	Rail pole std. weight 21 kg per meter	meter	1000.00
13.2	Supply of support for overhead line RS joist / H-beam of I.S. standard including welding, drilling of required hole etc. complete as required.		
1	R.S. Joist 100x200-25.4 kg per meter	meter	1151.00
2	R.S. Joist 175 x 90 - 19.3 kg per meter	meter	897.00
3	R.S. Joist 150 x 100 - 17 kg per meter	meter	829.00
4	R.S. Joist 150 x 80 - 14.9 kg per meter	meter	675.00
5	R.S. Joist 125 x 75 - 13 kg per meter	meter	649.00
6	H-Beam 152x152mm , Std weight 37.1 kg per meter	meter	1810.00
13.3	Supply of steel tubular pole swaged type as per IS:2713-1980 Complete with baseplate and top Canopy		
1	410 SP-2 - 7.00 meter	Each	6263.00
2	410 SP-5 - 7.50 meter	Each	6864.00
3	410 SP-8 - 7.50 meter	Each	8597.00
4	410 SP-11 - 8.00 meter	Each	6847.00
5	410 SP-14 - 8.00 meter	Each	9096.00
6	410 SP-17 - 8.50 meter	Each	7712.00
7	410 SP-20 - 8.50 meter	Each	9934.00
8	410 SP-23 - 8.50 meter	Each	11718.00
9	410 SP-26 - 9.00 meter	Each	7680.00
10	410 SP-29 - 9.00 meter	Each	10024.00
11	410 SP-32 - 9.00 meter	Each	12868.00
12	410 SP-35 - 9.50 meter	Each	10798.00
13	410 SP-38 - 9.50 meter	Each	12163.00
14	410 SP-41 - 10.00 meter	Each	11261.00
15	410 SP-44 - 10.00 meter	Each	13807.00
16	410 SP-47 - 10.00 meter	Each	17100.00
17	410 SP-50 - 11.00 meter	Each	11239.00
18	410 SP-53 - 11.00 meter	Each	14132.00
19	410 SP-56 - 11.00 meter	Each	18358.00
20	410 SP-59 - 12.00 meter	Each	16044.00
21	410 SP-62 - 12.00 meter	Each	21057.00
22	410 SP-65 - 12.00 meter	Each	24158.00
23	410 SP-68 - 13.00 meter	Each	22523.00
24	410 SP-71 - 13.00 meter	Each	18193.00
25	410 SP-73 - 14.50 meter	Each	25467.00
26	410 SP-76 - 14.50 meter	Each	27813.00
27	410 SP-77 - 16.00 meter	Each	23086.00
28	410 SP-80 - 16.00 meter	Each	27244.00
29	410 SP-10 (Bend type) 8.00 meter	Each	6323.00
30	410 SP-16 (Bend type) 8.50 meter	Each	7081.00
31	410 SP-25 (Bend type) 9.00 meter	Each	7393.00
32	410 SP-34 (Bend type) 9.50 meter	Each	10184.00

S.No.	Description of Item	Unit	Rates (in Rs.)
33	410 SP-40 (Bend type) 10.00 meter	Each	10996.00
34	410 SP-49 (Bend type) 11.00 meter	Each	11495.00
13.4	Supplying of prestressed cement concrete (PCC) pole conforming to IS 785 at work site including required transportation.		
1	PCC pole 8 mtrs. Long 140 kg	Each	1589.00
2	PCC pole 9.1 mtrs. Long 272 kg	Each	3147.00
13.5	Supplying and drawing All Aluminium Alloy conductor (AAAC) of approved make confirming to IS 398-1979 Pt. IV, including binding at existing insulator, jointing, jumpering, tearing off, connecting etc. as required including clearing of obstacles (if any)		
1	0.03 sq.inch / 20 sq.mm Alloy Aluminium Conductor	Km.	23744.00
2	0.04 sq.inch / 25 sq.mm Alloy Aluminium Conductor	Km.	38966.00
3	0.05 sq.inch / 30 sq.mm Alloy Aluminium Conductor	Km.	41595.00
4	0.075 sq.inch / 48 sq.mm Alloy Aluminium Conductor	Km.	59178.00
13.6	Supplying and drawing of stranded Aluminium Conductor Steel Reinforced (ACSR) confirming to IS:398-1976 of approved make, stringing, making off complete with binding at existing insulator, jointing, jumpering, tearing off, connecting etc. as required and clearing of obstacles (if any) etc.		
1	ACSR 6/1 - 2.11mm dia (Squirrel) with equivalent copper area 13Sq.mm (or 0.02Sq.inch) & calculated Alu. Area 20.71 Sq.mm.	Km.	21718.00
2	ACSR 6/1 - 2.36mm dia (Gopher) with equivalent copper area 16Sq.mm or 0.025 inches and calculated aluminium area 25.91 Sq.mm.	Km.	27083.00
3	ACSR 6/1 - 2.59mm dia (Weasel)with equivalent copper area 20.00 Sq.mm (0.03 sq inch) with calculated aluminium area 31.21 Sq.mm	Km.	32258.00
4	ACSR 6/1 - 3.00mm dia (Ferret) with equivalent copper area 25Sqmm ( 0.04 sq inch) calculated aluminium area 41.87 Sq.mm.	Km.	40910.00
5	ACSR 6/1 - 3.35mm dia (Rabbit) with equivalent copper area 30Sqmm (0.05 sq inch) calculated aluminium area 52.21Sq.mm.	Km.	58900.00
6	ACSR 6/1 - 3.66mm dia (Mink) with equivalent copper area 40 Sqmm (0.06 sq inch) calculated aluminium area 62.32 sq.mm.	Km.	71073.00
7	ACSR 6/1 - 3.99mm dia (Beaver)with equivalent copper area 45 Sqmm (0.07 sq inch) calculated aluminium area 74.07 Sq.mm	Km.	80228.00
8	ACSR 6/1 - 4.09mm dia (Raccoon) with equivalent copper area 48 Sqmm (0.075 sq inch) equivalent calculated Aluminium area 77.83 Sq.mm.	Km.	79028.00
13.7	Supplying and fixing guard insulator or split insulator complete:		
1	25x25mm	Pair	25.00
2	37x37mm	Pair	30.00
3	50x50mm	Pair	44.40
13.8	Supplying and drawing guard wire/earth wire/bearer wire 13mm <sup>2</sup> (4mm. Dia) G.I. including stringing, binding at existing insulators or brackets, jointing, jumpering, connecting etc. as required and clearing of obstacles (if any)	Km.	8986.00



S.No.	Description of Item	Unit	Rates (in Rs.)
13.9	Supplying and erection of guards for existing overhead lines as required including split insulator required as per specification:		
1	Cradle type	Each	39.00
2	Hexagonal type	Each	10.00
3	Ring type	Each	22.00
13.10	Supplying and erection of water tight terminal box of 14 SWG M.S. Sheet 4mm thick box of required size to erect the suitable kit kat/ MCB/Switch with Top & bottom folded fitted with rubber ring to make it water tight with pole clamp made from 40x3mm M.S. flat iron with 2 Nos. Nut and Bolts duly painted with 2 coat of Red Oxide paint and 2 coat of Aluminium silver paint erected with cable gland but excluding the cost of the Kit Kat/MCB/Switch complete as per specification:		
1	20x15x15Cms.	Each	277.00
2	30x20x15 Cms.	Each	381.00
13.11	Installing iron clad weather proof cut outs on existing pole or surface board/boxes with necessary materials complete including fixing and connection etc. excluding cost of cutouts as required:		
1	15/16 Amps. 250 volts.	Each	53.00
2	15/16 Amps. 500 volts.	Each	90.00
3	30/32 Amps. 500 volts.	Each	107.00
4	60/63 Amps. 500 volts	Each	240.00
5	100 Amps. 500 volts.	Each	395.00
13.12	Supplying and installing (overhead) service main with PVC insulated & PVC sheathed cable suspended on existing bearer wire in approved manner as per specification with bobin insulators etc. including drawing in existing G.I. pipe brackets or conduit pipe etc. wherever required, including connection, testing etc.:		
13.12.1	Aluminium Two wire (single core)		
1	2.5 Sq.mm	meter	7.00
2	4.0 Sq.mm	meter	7.00
3	6.0 Sq.mm	meter	8.00
13.12.2	Three Wire (Single core)		
1	4.0 Sq.mm	meter	8.00
2	6.0 Sq.mm	meter	8.00
3	10 Sq.mm	meter	34.00
4	16 Sq.mm	meter	45.00
13.12.3	Four Wire ( Single core)		
1	4 Sq.mm	meter	33.00
2	6 Sq.mm	meter	40.00
3	10 Sq.mm	meter	59.00
4	16 Sq.mm	meter	71.00
13.13	Erection of steel tubular or steel rail pole or H-Beam of length exceeding 8 meters but not exceeding 10 meters in cement concrete 1:3:6 (1 cement : 3 coarse sand: 6 graded stone aggregate 40mm nominal size) foundation, base padding & muffing including excavation and refilling etc. as required.(4.55 bags of cement/cmt.)	Each	1681.00

S.No.	Description of Item	Unit	Rates (in Rs.)
13.14	Erection of steel tubular or steel rail pole or H-Beam of length exceeding 10 meters but not exceeding 13 meters in cement concrete 1:3:6 (1 cement :3 coarse sand: 6 graded stone aggregate 40mm nominal size) foundation , base padding & muffing including excavation and refilling etc. as required.(4.55 bags of cement/cmt.)	Each	1855.00
13.15	Erection of R.C.C./P.C.C. pole of length exceeding 8 meters but not exceeding 11 meters in brick ballast and ramming the foundation including excavation and refilling etc.as required.	Each	2235.00
13.16	Erection of R.C.C./P.C.C. pole of length exceeding 11 meters but not exceeding 13 meters in brick ballast and ramming the foundation including excavation and refilling etc. as required.	Each	2429.00
13.17	Erection of metallic street light standard of length exceeding 4.5 meters but not exceeding 6.5 meters in cement concrete 1:3:6 (1cement:3coarse sand:6 graded stone aggregate 40mm nominal size) foundation with cement concrete collar of size 0.4 meters dia x 0.5 meters height to accommodate the looping type cable end box including excavation and refilling etc. as required.	Each	1379.00
13.18	Erection of metallic street light standard of length exceeding 6.5 meters but not exceeding 8 meters in cement concrete 1:3:6 (1cement:3coarse sand:6 graded stone aggregate 40mm nominal size) foundation with cement concrete collar of size 0.4 meters dia x 0.5 meters height to accommodate the looping type cable end box including excavation and refilling etc. as required.	Each	1540.00
13.19	Erection of steel tubular or rail pole strut in cement concrete 1:3:6 (1cement:3coarse sand: 6 aggregate 40mm nominal size) foundation including excavation and refilling and secured with holding clamps, nuts and bolts, etc. as required.	Each	2372.00
13.20	Erection of RCC/PCC pole struct in bricballast and ramming the foundation including excavation and refilling and secured with holding clamps nuts and bolts etc. as required.	Each	3070.00
13.21	Supplying and erection of stay set complete (Galvanized) 19mm. Dia x 1.8 meter long stay rod anchor plate of size 300 mm x 300 mm x6.4mm thimble stay clamps, turn buckle (19mm dia x60cm),7/4.00mm dia G.I. Stay wire and strain insulator etc. in cement concrete 1:3:6 (1 Cement : 3 Coarse sand : 6 graded stone aggregate 40mm nominal size) foundation including excavation and refilling etc. as required.	Each	2000.00
13.22	Supplying and erection of stay set complete (Galvanized) with 19mm dia x1.8 meter long stay anchor plate of size 300mm x 300mm x 6.4mm thimble stay clamps turn buckle 19mmx560cm 7/3.15mm dia G.I. stay wire and strain insulator etc. in cement concrete 1:3:6 (1 Cement : 3 Coarse and : 6 graded stone aggregate 40mm nominal size) foundation including excavation and refilling etc. as required.	Each	1864.00

S.No.	Description of Item	Unit	Rates (in Rs.)
13.23	Supplying and erection of stay set complete (Galvanized) with 19mm.dia 1.8 meter long stay rod, anchor plate of size 300mm x 300mm x 6.4mm thimble stay clamps, bow tightener, 7/4.00 dia G.I. stay wire and strain insulator etc. in cement concrete 1:3:6 (1 Cement : 3 Coarse and : 6 graded stone aggregate 40mm nominal size) foundation including excavation and refilling etc. as required.	Each	1895.00
13.24	Supplying and erection of stay set complete (Galvanized) with 19mm.dia 1.8 meter long stay rod, anchor plate of size 300mm x 300 mm x 6.4mm thimble stay clamps, bow tightener, 7/3.15 dia G.I. stay wire and strain insulator etc. in cement concrete 1:3:6 (1 Cement : 3 Coarse and : 6 graded stone aggregate 40mm nominal size) foundation including excavation and refilling etc. as required.	Each	1764.00
13.25	Erection of stay set complete (Galvanized) in cement concrete 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size) foundation including excavation and refilling etc. as required.	Each	825.00
13.26	Supplying and erection of bow stay set complete (galvanized) with 19mm dia x 1.8m long stay rod, anchor plate of size 300mmx300mm x 6.4mm thimble stay clamps, turn buckle 19mmx60cm, 7/4.00mm dia G.I. stay wire and strain insulator etc. in cement concrete 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size) foundation including excavation and refilling and also with 0.6m long brace of size 50mmx 50mmx6mm angle iron with 50mm dia pulley fixed at one end of the brace as required.	Each	2280.00
13.27	Supplying and erection of bow stay set complete (galvanized) with 19mm dia. X 1.8m long stay rod anchor plate of size 300mmx300mmx6.4mm thimble stay clamps turn buckle 19mmx60cm, 7/3.15mm dia G.I. Stay wire and strain insulator etc. in cement concrete 1:3:6 (1cement : 3 coarse sand : 6 graded stone aggregate 400mm nominal size foundation including excavation and refilling and also with 0.6m long brace of size 50mmx50mmx6mm angle iron with 50mm dia pulley fixed at one end of the brace as required.	Each	2144.00
13.28	Supplying of channel iron 75mmx40mm (5.7kg/ m) cross arm for 2 wire overhead line complete with clamps, bolts and nuts etc.including painting as required	Set	370.00
13.29	Supplying of channel iron 75mmx40mm(5.7kg/ m) cross arm for 4 wire overhead line complete with clamps, bolts and nuts etc.including painting as required	Set	625.00
13.30	Supplying of channel iron 100mmx50mmx7.9kg.Per M cross arm for 4 wire overhead line complete with clamps, bolts and nuts etc..including painting as required	Set	750.00
13.31	Supplying of angle iron 50mmx50mmx6mm (4.5 kg /m) cross arm for 2 wire overhead line complete with clamps, bolts and nuts etc.including painting as required.	Set	268.00

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
13.32	Supplying of angle iron 50mmx50mmx6mm(4.5 kg /m) cross arm for 4 wire overhead line complete with clamps, bolts and nuts etc.including painting .as required.	Set	421.00
13.33	Erection of angle iron/channel iron cross arm on existing pole etc. as required.	Set	110.00
13.34	Supply and Erection of galvanized 'D' iron bracket complete with shackle insulator (75mmx90mm) bolts and nuts, coach screws etc..including painting as required.	Set	190.00
13.35	supply & Erection of galvanized 'D' iron complete with shackle insulator (100mmx110mm) bolts and nuts, coach screws etc..including painting as required.	Set	216.00
13.36	Erection of galvanized 'D' iron and insulator on pole as required.	Set	28.00
13.37	Supplying and erection of 75mm x 90mm shackle insulator with G.I. bolts, nuts and straps etc. as required.	Each	104.00
13.38	Supplying and erection of 100mmx110mm shackle insulator with G.I. bolts, nuts and straps etc. as required.	Each	130.00
13.39	Supplying and erection of 100mmx65mm pin insulator complete with G.I. spindle and nuts etc. as required.	Each	66.00
13.40	Supplying and erection of 100mmx80mm pin insulator complete with G.I. spindle and nuts etc. as required.	Each	67.00
13.41	Erection of shackle/pin insulator etc. as required.	Each	30.00
13.42	Erection of G.I. wire No.8 SWG including binding etc.as required.	Km.	1101.00
13.43	Erection of hexagonal type guard as required (labour only)	Each	78.00
13.44	Erection of ring type guard as required ( Labour only)	Each	26.00
13.45	Erection of cradle guard as required (Labour only)	Each	52.00
13.46	Supplying and erection of 15A aerial fuse complete as required.	Each	57.00
13.47	Supplying and erection of 30A aerial fuse complete as required.	Each	67.00
13.48	Erection of aerial fuse as required.	Each	40.00
13.49	Fixing of lightning arrestor (labour only)	Each	60.00
13.50	Supplying and fixing of 20mm dia. G.I. pipe A class 3 mtrs. in length for street light water tight bracket including bending to shape and wiring with 1.5sqmm W.P./PVC wire alongwith water proof controlling switch etc. as required.	Each	641.00
13.51	Supplying and fixing of 20mm dia. G.I. pipe A class 2 mtrs. Long for street light water tight bracket including bending to shape and wiring with 1.5sqmm W.P./PVC wire alongwith water proof controlling switch etc. as required.	Each	931.00

S.No.	Description of Item	Unit	Rates (in Rs.)
13.52	Supplying and fixing of 32mm dia. X 2.00 mtr. Long G.I. pipe B class bracket for mounting of fluorescent street light fittings on poles including bending the pipe to the required shape and wiring with 1.5Sq.mm W.P./PVC wire etc. as required.	Each	675.00
13.53	Providing and fixing 50mmx3.2 M.G.I. Long pipe (including accessories) complete with 50mmx50mmx6mm angle iron bracket on wall and 75mmx90mm shackle insulator with straps for house service connection.	Each	1393.00
13.54	Providing and fixing 50mmx5.6 M.G.I. Long pipe (including accessories) complete with 50mmx50mmx6mm angle iron cross arm and M.S. flat iron, bends for guard wire 75mmx90mm shackle insulator with straps 7/3.15mm G.I. wire, stay set for house service connection.	Each	2253.00
13.55	Dismantling of over head lines comprising of copper / aluminium overhead conductor, G.I. wire, cross arm, insulators etc. as required.	Kg	2001.00
13.56	Dismantling poles/street light standards/struts embedded in brick ballast etc. as required.	Each	1001.00
13.57	Dismantling poles/street light standards/struts embedded in cement concrete foundation etc. as required.	Each	1586.00
13.58	Supplying of angle/channel flat iron fitting for overhead lines such as cross arms, clamps, brackets, welding and other necessary materials as per specifications.	Kg.	48.00
13.59	Labour charges for fixing 'D' brackets of angle iron 50x50x6mm size on existing pole as required	Each	50.00
13.60	Labour charges for fixing 'D' brackets of angle iron 50x50x6 mm size on existing wall masonry with required materials complete.	Each	52.00
13.61	Supplying and erection of galvanised stay set for 11kV overhead line complete with 19/20mm dia x 1.8 meters long stay rod, anchor plate of size 45cm x 45cm x 7.5mm thick, thimble, stay clamps, turn buckle (20mmx 600mm), 7/4.00mm dia G.I. stay wire and 11kV strain insulator etc. in cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm. nominal size) foundation including excavation and refilling etc. as required.	Set	2038.00
13.62	Supplying and erection of galvanised stay set for 33kV overhead line complete with 19/20mm dia x 1.8 meters long stay rod, anchor plate of size 45cm x 45cm x 7.5mm thick, thimble, stay clamps, turn buckle (20mmx 600mm), 7/4.00mm dia G.I. stay wire and 33kV strain insulator etc. in cement concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm. nominal size) foundation including excavation and refilling etc. as required.	Set	2050.00

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
13.63	Supplying of channel iron 75mm x 40mm x 7.14 Kg/mtr. Pole top bracket/cross arm for single 11kV overhead line conductor complete with 50mm x 6mm flat iron clamp, bolts and nuts including drilling holes for insulator pins, bolts and nuts etc. 'and painting with primer and finish paint as required	Each	267.00
13.64	Supplying of channel iron 75mm x 40mm x 7.14 Kg/mtr. Pole top bracket/cross arm for single 33kV overhead line conductor complete with 50mm x 6mm flat iron clamp, bolts and nuts including drilling holes for insulator pins, bolts and nuts etc. 'and painting with primer and finish paint as required	Each	283.00
13.65	Supplying of 50mmx 8mm M.S. Flat iron pole top bracket/cross arm for single 11/22/33kV overhead line conductor complete with fixing bolts, nuts and washers drilling holes for insulator pins, painting with primer and finish paint as required.	Each	331.00
13.66	Supplying of channel iron 75mm x 40mm x 7.14Kg / Mtr.cross arm for two 11kV overhead line conductors complete with 50mm x 50mm x 6mm angle iron bracket welded to the channel iron and complete with 50mm x 6mm M.S. flat iron clamps, bolts and nuts including drilling holes for insulator pins, bolts and nuts etc. and painting with primer and finish as required.	Each	1253.00
13.67	Supplying of channel iron 75mmx 40mmx 7.14Kg /Mtr.cross arm for two 33kV overhead line conductors complete with 50mm x 50mm x 6mm angle iron bracket welded to the channel iron and complete with 50mm x 6mm M.S. flat iron clamps, bolts and nuts including drilling holes for insulator pins, bolts and nuts etc. and painting with primer and finish as required.	Each	1558.00
13.68	Supplying of channel iron 75mm x 40mm x 7.14 kg/Mtr. V-shape cross arm for two 11 kV overhead line conductors complete with 50 mm x 6mm M.S. flat iron clamp, bolts and nuts including drilling holes for insulator pins, bolts and nuts etc. and painting with primer and finish paint as required.	Each	1067.00
13.69	Supplying of channel iron 75mm x 40mm x 7.14 kg/Mtr. V-shape cross arm for two 33 kV overhead line conductors complete with 50 mm x 6mm M.S. flat iron clamp, bolts and nuts including drilling holes for insulator pins, bolts and nuts etc. and painting with primer and finish paint as required.	Each	1209.00
13.70	Erection of pole top/straight two wire/V-shape two wire/angle iron/channel iron, Cross arm on steel tubular/Rail/Channel iron/PCC pole for 11kV/33kV as required.	Set	200.00

S.No.	Description of Item	Unit	Rates (in Rs.)
13.71	Supplying of two lengths of channel iron 75mm x 40mm x 7.14 kg/mtr . Double pole cross arm for three wire 11kV overhead line conductors complete with through bolts and nuts for clamping to the poles, 50mm x 6mm m.s flats welded on one side to the channel iron and with bolts and nuts on the other side for tying the cross arms together, including drilling holes for insulator pins/fittings, bolts and nuts etc. and painting with primer and finish paint as required.	Set	2558.00
13.72	Supply and erection of a set of cross bracing frame work for 11 kv overhead line double pole structure having four members fabricated out of 50mmx50mmx6mm angle iron to form a rectangle of minimum size 1400mm width x 2500mm height, complete with 50mm x 6mm flat iron clamps, bolts and nuts including drilling holes and painting with primer and finish paint as required.	Set	3835.00
13.73	Supplying of channel iron 100mmx50mm x 9.56kg/mtr, pole top bracket/cross arm for single 33kV overhead line conductor complete with 50mmx6mm flat iron clamp, bolts and nuts including holes for insulator pins, bolts and nuts etc. and painting with primer and finish as required.	Each	368.00
13.74	Supplying of channel iron 100mmx50mm x 9.56kg/mtr, cross arm for two wire 33kV overhead line conductors complete with 50mmx50mmx6mm angle iron bracket welded to the channel iron and complete with 50mmx6mm flat iron clamps, bolts and nuts including drilling holes for insulator pins/fitting, bolts and nuts etc. and painting with primer and finish paint as required.	Each	1824.00
13.75	Supplying of channel iron 100mm x 50mm x 9.56Kg/Mtr. V-Shape cross arm for two 33kV overhead line conductors complete with 50mm x 6mm x M.S. flat iron clmps, bolts and nuts including drilling holes for insulator pins, bolts and nuts etc. painting with primer and finish paint as required.	Each	1549.00
13.76	Supplying of two lengths of channel iron 100mmx50mmx9.56kg/mtr. Double pole cross arm for three wire 33kV overhead line conductors complete with through bolts and nuts for clamping to the poles, 50mmx6mm m.s flat welded on one side to the channel iron and with bolts and nuts on the other side for tying the cross arms together including drilling holes for insulator pins/fittings, bolts and nuts etc. and painting with primer and finish paint as required.	Set	3547.00
13.77	Erection of double pole 3-wire cross arm for 11kV /22kV/33 overhead lines as required.	Each	457.00
13.78	Supplying and erection of a set of cross bracing frame work for 33kV overhead line double pole structure having four members fabricated out of 65mmx65mmx6mm angle iron to form a rectangle of minimum size 2400mm width x 2800mm height, complete with 50mmx6mm M.S. flat iron clamps, bolts and nuts including drilling holes and painting with primer and finish as required.	Set	5455.00

S.No.	Description of Item	Unit	Rates (in Rs.)
13.79	Supplying and erection of 11kV pin insulator complete with large steel head G.I. pin, nut, washer etc. as required.	Set	208.00
13.80	Supplying and erection of 11kV disc insulator for 11kV overhead lines with galvanised insulator fittings, ball and socket type, and complete with galvanised strain clamp, bolts, nuts washer etc. as required.	Set	780.00
13.81	Supplying and erection of 33kV pin insulator complete with large steel head G.I. pin, nut, washer etc. as required	Set	640.00
13.82	Supplying and erection of a set of three 11kV disc insulators for 33kV overhead lines with galvanised insulator fittings, ball and socket type, and complete with galvanised strain clamp, bolts, nuts, washers etc. as required.	Set	2132.00
13.83	Erection of disc/pin insulator for 11kV overhead line as required	Set	60.00
13.84	Supplying and erection of three piece nonlinear resistor type lightning arrester suitable for 3 wire, 11kV overhead lines with rated voltage of 9kV (rms) with a nominal discharge current rating of 5 KA and complete with galvanised clamping arrangement, G.I. bolts, nuts, washer etc. as required.	Set	1442.00
13.85	Supplying and erection of single piece non-linear resistor type lightning arrester for 3 wire, 33kV overhead lines with rated voltage of 30kV (rms) with a nominal discharge current rating of 5 KA and complete with galvanised clamping arrangement, G.I. bolts, nuts, washer etc. as required.	Set	30106.00
13.86	Painting of pole bracket cable protecting pipe and its clamps in two coatings of All. enamel based primer as directed by Engineer-in-Charge.		
13.86.1	Upto 5 mtr.	Meter	30.00
13.86.2	above 5 mtr. to 9 mtr.	Meter	40.00
13.86.3	above 9 mtr.	Meter	55.00
13.87	Decorative designer poles		
	Providing and erection of black painted galvanized decorative designer poles in different section, top 60mm dia., bottom 140mm dia. with gold colour painted ornamental cast aluminium ring having lockable weather proof flush door junction box in bottom section, base plate dia. 290mm having 4 holes of 22mm dia. complete erected in an approved manner on existing foundation. Suitable size & type of foundation bolts 4 nos. X 16mm X 450mm 'J' type (EN8 grade)		
	3 meter Height	Each	19520.00
	4 meter Height	Each	21351.00
	5 meter height	Each	26841.00
13.88	Providing and fixing of sword canopy type single arm GI bracket upto 2 Mtr. Long for 70mm A/F top octagonal pole	Each	1573.00
13.89	Providing and fixing of sword canopy type double arm GI bracket upto 2 Mtr. Long for 70mm A/F top octagonal pole	Each	2560.00



**CHAPTER -14**  
**POWER CABLES & LAYING**

S.No.	Description of Item	Unit	Rates (in Rs.)
14.1	Supply of XLPE Insulated power cable (conforming IS-7098 ) 1100 Volt grade/Heavy duty power cable conforming to IS 1554-1100 Volts grade , 2 core /3½ core/4 core ISI MARKED with Alu. Stranded /solid conductor		
14.1.1	UNARMOURED 2 Core		
1	2.5 Sq.mm.(Heavy Duty)	meter	43.00
2	4 Sq.mm.(Heavy Duty)	meter	36.00
3	6 Sq.mm.(XLPE)	meter	41.00
4	10 Sq.mm.(XLPE)	meter	48.00
5	16 Sq.mm.(XLPE)	meter	57.00
14.1.2	ARMOURED 2 Core		
1	2.5 Sq.mm.(Heavy Duty)	meter	50.00
2	4 Sq.mm.(Heavy Duty)	meter	55.00
3	6 Sq.mm.(XLPE)	meter	64.00
4	10 Sq.mm.(XLPE)	meter	75.00
5	16 Sq.mm.(XLPE)	meter	87.00
14.1.3	UNARMOURED 3 Core		
1	6 Sq.mm.(XLPE)	meter	45.00
2	10 Sq.mm.(XLPE)	meter	59.00
3	16 Sq.mm.(XLPE)	meter	75.00
4	25 Sq.mm(XLPE)	meter	109.00
5	35 Sq.mm(XLPE)	meter	131.00
6	50 Sq.mm(XLPE)	meter	171.00
7	70 Sq.mm(XLPE)	meter	237.00
8	95 Sq.mm.(XLPE)	meter	292.00
14.1.4	ARMOURED 3 Core		
1	6 Sq.mm.(XLPE)	meter	70.00
2	10 Sq.mm.(XLPE)	meter	88.00
3	16 Sq.mm.(XLPE)	meter	94.00
4	25 Sq.mm(XLPE)	meter	126.00
5	35 Sq.mm(XLPE)	meter	151.00
6	50 Sq.mm(XLPE)	meter	190.00
7	70 Sq.mm(XLPE)	meter	255.00
8	95 Sq.mm.(XLPE)	meter	579.00
14.1.5	UNARMOURED 3½ CORE		
1	25 Sq.mm(XLPE)	meter	124.00
2	35 Sq.mm(XLPE)	meter	148.00
3	50 Sq.mm(XLPE)	meter	197.00
4	70 Sq.mm(XLPE)	meter	271.00
5	95 Sq.mm.(XLPE)	meter	338.00
6	120 Sq.mm.(XLPE)	meter	425.00
7	150 Sq.mm.(XLPE)	meter	512.00
8	185 Sq.mm.(XLPE)	meter	645.00

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
9	240 Sq.mm.(XLPE)	meter	820.00
10	300 Sq.mm.(XLPE)	meter	1008.00
11	400 Sq.mm.(XLPE)	meter	1271.00
14.1.6	<b>ARMOURED 3½ CORE</b>		
1	25 Sq.mm(XLPE)	meter	142.00
2	35 Sq.mm(XLPE)	meter	168.00
3	50 Sq.mm(XLPE)	meter	219.00
4	70 Sq.mm(XLPE)	meter	297.00
5	95 Sq.mm.(XLPE)	meter	360.00
6	120 Sq.mm.(XLPE)	meter	449.00
7	150 Sq.mm.(XLPE)	meter	531.00
8	185 Sq.mm.(XLPE)	meter	662.00
9	240 Sq.mm.(XLPE)	meter	834.00
10	300 Sq.mm.(XLPE)	meter	1021.00
11	400 Sq.mm.(XLPE)	meter	1300.00
14.1.7	<b>UNARMOURED 4 CORE</b>		
1	6 Sq.mm.(XLPE)	meter	55.00
2	10 Sq.mm.(XLPE)	meter	70.00
3	16 Sq.mm.(XLPE)	meter	93.00
4	25 Sq.mm(XLPE)	meter	132.00
5	35 Sq.mm(XLPE)	meter	166.00
6	50 Sq.mm(XLPE)	meter	217.00
7	70 Sq.mm(XLPE)	meter	302.00
8	95 Sq.mm.(XLPE)	meter	378.00
9	120 Sq.mm.(XLPE)	meter	471.00
10	150 Sq.mm.(XLPE)	meter	585.00
14.1.8	<b>ARMOURED 4 CORE</b>		
1	6 Sq.mm.(XLPE)	meter	93.00
2	10 Sq.mm.(XLPE)	meter	99.00
3	16 Sq.mm.(XLPE)	meter	113.00
4	25 Sq.mm(XLPE)	meter	153.00
5	35 Sq.mm(XLPE)	meter	187.00
6	50 Sq.mm(XLPE)	meter	242.00
7	70 Sq.mm(XLPE)	meter	327.00
8	95 Sq.mm.(XLPE)	meter	399.00
9	120 Sq.mm.(XLPE)	meter	490.00
10	150 Sq.mm.(XLPE)	meter	603.00
14.2	Supply of approved HighTension XLPE cable 11kV/grade as per ISI standard 3 core Armoured with Alu. Solid/stranded conductor ISI MARKED as required		
14.2.1	<b>XLPE CABLE 11 KV GRADE</b>		
1	50 Sq.mm	meter	441.00
2	70 Sq.mm	meter	524.00
3	95 Sq.mm.	meter	619.00
14.2.2	<b>XLPE CABLE 33 KV GRADE</b>		
1	50 Sq.mm	meter	81.00
2	70 Sq.mm	meter	154.00

S.No.	Description of Item	Unit	Rates (in Rs.)
3	95 Sq.mm.	meter	176.00
14.3	Providing & Erecting M-Seal Push - on Kit for 11 kV/33 kV XLPE-Cable with kit content, stress cone, H.L. pad, Top Cap, rain shed, self bounding insulating tape, sliding cone leakage current collector, P.V.C. boot earth continuity connection mould adhesive cum solvent, P.V.C. (N.A.) tape, silicon grease Aluminium lugs, Aluminium Oxide cloth,nylong string, copper binding wire, Adopter etc. duty erected on pole/support & connected to D.O. fuse unit as required as per accepted standard, as required complete.		
14.3.1	M-seal push on kit 33 kV XLPE cable		
1	M-seal push on kit 33 kV XLPE cable O.D. termination		
	a. 3x50 sq.mm	Each	42163.00
	b. 3x70to3x120 sq.mm.	Each	45954.00
2	M-seal push on kit 33 kV XLPE cable I.D. termination		
	a. 3x50 sq.mm	Each	16830.00
	b. 3x70to3x120 sq.mm.	Each	20120.00
14.3.2	M-seal push on kit 11 kV XLPE cable		
1	M-seal push on kit 11 kV XLPE cable O.D. termination		
	a. 3x25,3x35	Each	19331.00
	b. 3x50,3x70	Each	19743.00
	c. 3x95	Each	20552.00
2	M-seal push on kit 11 kV XLPE cable I.D. termination		
	a. 3x25,3x35	Each	10739.00
	b. 3x50,3x70	Each	11221.00
	c. 3x95	Each	12843.00
14.4	Providing & Making cable end termination with HEAT SHRINKABLE jointing kit complete with all accesories including lugs suitable for 33 kV/11 kV 3 core XLPE alum. conductor cable as required as per specification andas per accepted standard complete.		
14.4.1	Heat shrinkable joint,kit 33 kV XLPE		
1	Heat shr.jointg. kit 33 kV XLPE cable O.D. termination		
	a. 3x50	Each	32898.00
	b. 3x70,95	Each	33869.00
	c. 3x120,185	Each	52873.00
2	Heat shrinkable joint. kit 33 kV XLPE cable I.D. termination		
	a. 3x50	Each	23318.00
	b. 3x70,95	Each	27074.00
	c. 3x120,185	Each	52873.00
14.4.2	Heat shrinkable joint,kit 11 kV XLPE		
1	Heat shr.jointg. kit 11 kV XLPE cable O.D. termination		
	a. 3x25, 3x35	Each	25479.00
	b. 3x50, 3x70	Each	30559.00

S.No.	Description of Item	Unit	Rates (in Rs.)
	c. 3x95	Each	30559.00
2	Heat shrinkable joint. kit 11 kV XLPE cable I.D. termination		
	a. 3x25, 3x35	Each	14635.00
	b. 3x50, 3x70	Each	18831.00
	c. 3x95	Each	18831.00
14.5(A)	End termination		
14.5.1	Providing and erecting epoxy resin end termination/joint for low tension P.V.C./XLPE insulated cable of 1100 Volt grade complete with cable jointing compound, Harner, Plastic mould adhesive cum solvent epoxy putty, spacer, tapes etc. as per I.S. specification 8438. 1977 for cable duty erected on existing pole/support/switch gears and connection to supply for all core cable as under.		
14.5.1.	id/od epoxy resin end termination		
	a. 10-50 sq.mm. 2 / 3 / 3½ core	Each	489.00
	b. 70-120 sqmm 2 / 3 / 3½ / 4core	Each	654.00
	c. 150-300 sqmm 2 / 3 / 3½ / 4core	Each	1087.00
	d. 350-500sqmm 3½ core	Each	1532.00
14.5.2	Supply and making cable end termination with all necessary materials including lugs etc.Heat shr.jointg. kit 1.1 kV XLPE/HD cable O.D. termination		
	a. 10-50 sqmm 2 / 3 / 3½ / 4core	Each	6934.00
	b. 70-150 sqmm 2 / 3 / 3½ / 4core	Each	7717.00
	c. 150-300 sqmm 2 / 3 / 3½ / 4core	Each	9539.00
	d. 350-500 sqmm 2 / 3 / 3½ / 4core	Each	11564.00
14.5.3	Supply and making cable end termination with all necessary materials including lugs etc.Heat shr.jointg. kit 1.1 kV XLPE/HD cable I.D. termination		
	a. 10-50 sqmm 2 / 3 / 3½ / 4core	Each	3651.00
	b. 70-150 sqmm 2 / 3 / 3½ / 4core	Each	4405.00
	c. 150-300 sqmm 2 / 3 / 3½ / 4core	Each	7143.00
	d. 350-500 sqmm 2 / 3 / 3½ / 4core	Each	8334.00
14.5(B)	Cable Jointing		
14.5.1	Straight through cable jointing kit including compound, hardener, plastic mould with other accessories for the following aluminium conductor PVC insulated and PVC sheathed cable//XLPE of 1.1 kV grade:(I.D./O.D.)		
	a. 6-16 sqmm 2 / 3 / 3½ / 4core	Each	990.00
	b. 25-35 sqmm 2 / 3 / 3½ / 4core	Each	1324.00
	c. 50-95 sqmm 2 / 3 / 3½ / 4core	Each	1679.00
	d. 120-240 sqmm 2 / 3 / 3½ / 4core	Each	2788.00
	e. 300-350 sqmm 2 / 3 / 3½ / 4core	Each	3547.00
	f. 400-500 sqmm 2 / 3 / 3½ / 4core	Each	5129.00

S.No.	Description of Item	Unit	Rates (in Rs.)
14.5.2	Supply and making Heat shr.jointg. kit 1.1 kV XLPE/HD cable straightthrough jointing.kit complete with all accessories including lugs etc. (I.D../O.D.)		
	a. 6-16 sqmm 2 / 3 / 3½ / 4core	Each	2600.00
	b. 25-35 sqmm 2 / 3 / 3½ / 4core	Each	3512.00
	c. 50-95 sqmm 2 / 3 / 3½ / 4core	Each	4405.00
	d. 120-240 sqmm 2 / 3 / 3½ / 4core	Each	6690.00
	e. 300-350 sqmm 2 / 3 / 3½ / 4core	Each	12659.00
	f. 400-500 sqmm 2 / 3 / 3½ / 4core	Each	13365.00
14.6	BRASS COMPRESSION GLAND		
14.6.1	Supplying and fixing heavy duty cable gland for P.V.C. insulated armoured cable with brass washer, Rubber ring complete erected with cable and lead connection etc. as per specification complete.		
1	Gland Size 22mm suitable for cable 2,3,3½ & 4 x upto 6 Sq.mm	Each	32.00
2	Gland Size 22mm suitable for cable 2,3, 3½, 4 x 10 Sq.mm or 2x 16 Sq.mm	Each	41.00
3	Gland size 28mm suitable for cable 3,4 x 16 Sq.mm	Each	59.00
4	Gland size 32mm suitable for cable 2,3, 3½, 4 x 25 Sq.mm OR 2,3, 3½ x 35 Sq.mm OR 2,3 x 50 Sq.mm.	Each	70.00
5	Gland size 38mm suitable for cable 3½ x 70 Sq.mm, 3x95 Sq.mm	Each	109.00
6	Gland Size 45mm suitable for cable 3/3½ x 120 Sq.mm OR 3½ x 95 Sq.mm OR 3 x 150 Sq.mm.	Each	131.00
7	Gland Size 50 mm suitable for cable 3½ x 150 Sq.mm OR 3 x 185 Sq.mm	Each	167.00
8	Gland Size 57mm suitable for cable 3 x 225 Sq.mm OR 3 ½ x 185 Sq.mm	Each	235.00
9	Gland Size 70mm suitable for cable 3 x 240 Sq.mm OR 3½ x 300 Sq.mm	Each	332.00
10	Gland Size 82mm suitable for cable 3½ x 400 Sq.mm	Each	435.00
14.7	Supplying and fixing ferrules. (Aluminium in Line connector) As per IS - specification suitable for following size of cable with Aluminium stranded/solid conductor evently cramped with high pressure tool including connection as required complete		
14.7.1	For Conductor Size-		
1	2.5 to 6.00 Sq.mm	Each	2.00
2	10.00 Sq.mm	Each	2.00
3	16.00 Sq.mm	Each	5.00
4	25.00 Sq.mm	Each	5.00
5	35.00 Sq.mm	Each	5.00
6	50.00 Sq.mm	Each	8.00
7	70.00 Sq.mm	Each	13.00
8	95.00 Sq.mm	Each	13.00
9	120.00 Sq.mm	Each	20.00
10	150.00 Sq.mm	Each	28.00

S.No.	Description of Item	Unit	Rates (in Rs.)
11	185.00 Sq.mm	Each	35.00
12	240.00 Sq.mm	Each	56.00
13	300.00 Sq.mm	Each	85.00
14	400.00 Sq.mm	Each	118.00
14.8	LUGS:- Supplying and fixing cramping type Alum. lugs as per I.S.S. Specification suitable for following size of cable with Alu./Copper solid/stranded conductor evenly cramped with high/pressure tool and connected to switch gear/Bus/M.C.C.B./ M.C.B. etc. as required complete.For Conductor Size-		
1	6mm to 16 Sq.mm	Each	5.00
2	25 Sq.mm	Each	7.00
3	35 Sq.mm	Each	9.00
4	50 Sq.mm	Each	13.00
5	70 Sq.mm	Each	19.00
6	95 Sq.mm.	Each	21.00
7	120 Sq.mm.	Each	31.00
8	150 Sq.mm.	Each	37.00
9	180 Sq.mm	Each	45.00
10	240 Sq.mm.	Each	84.00
11	300 Sq.mm.	Each	118.00
12	400 Sq.mm.	Each	166.00
14.9	Supplying & fixing pin terminal lugs as per ISS specification suitable for cable evenly cramped with high pressure tool & connection to switch gear terminal.		
1	Aluminum Lugs Pin Type		
	a. Upto 16 Sq.mm Conductor Size	Each	4.00
	b. Upto 25 Sq.mm Conductor Size	Each	7.00
	c. 35 Sq.mm Conductor Size	Each	9.00
2	Copper Lugs Pin Type		
	a. Upto 16 Sq.mm Conductor Size	Each	12.00
	b. Upto 25 Sq.mm Conductor Size	Each	23.00
	c. 35 Sq.mm Conductor Size	Each	24.00
3	Copper Lugs Tube Type		
	a. Upto 16 Sq.mm Conductor Size	Each	13.00
	b. Upto 25 Sq.mm Conductor Size	Each	22.00
	c. 35 Sq.mm Conductor Size	Each	24.00
	d. 50 Sq.mm. Conductor Size	Each	32.00
14.10	CABLE LAYING		
1	Laying of one number PVC insulated and PVC sheathed power cable of 1.1kV grade of size not exceeding 25 Sq.mm direct in ground including excavation, sand cushioning, protective covering and refilling the pit etc. as required.	meter	150.00

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
2	Laying of one number PVC insulated power cable of 1.1.kV grade of size exceeding 25Sq.mm but not exceeding 120 Sq.mm direct in ground including excavation, sand cushioning, protective covering and refilling the pit etc. as required.	meter	162.00
3	Laying of one number PVC Insulated and PVC sheathed power cable of 1.1.kV grade of size exceeding 120 Sq mm but not exceeding 400 Sq.mm direct in ground including excavation and cushioning protective covering and refilling the pit etc. as required.	meter	177.00
4	Laying of one number additional PVC insulated PVC sheathed power cable of 1.1kV grade of size not exceeding 25Sq.mm direct in ground in the same trench in one tier horizontal formation including excavation sand cushioning protective covering and refilling the pit etc. as required.	meter	87.00
5	Laying of one number additional PVC insulated and PVC sheathed power cable of 1.1kV grade of size exceeding 25 Sq.mm but not exceeding 120 Sq.mm direct in ground in the same trench in one tier horizontal formation including excavation, sand cushioning, protective covering and refilling the pit etc. as required.	meter	94.00
6	Laying of one number additional PVC insulated and PVC sheathed power cable of 1.1kV grade of size exceeding 120 Sq mm but not exceeding 400 Sq mm direct in ground in the same trench in one tier horizontal formation including excavation, sand cushioning, protective covering and refilling the pit etc. as required.	meter	100.00
7	Laying of one number PVC insulated and PVC sheathed power cable of 1:1 kV grade of size not exceeding 25 Sq.mm in the existing RCC Hume/Stone/Ware/G.I. pipe as required.	meter	32.00
8	Laying of one number PVC insulated and PVC sheathed power cable of 1.1 kV grade of size exceeding 25 Sq.mm but not exceeding 400 Sq mm in the existing RCC/Hume Stoneware/G.I. Pipe as required.	meter	44.00
9	Laying of one number PVC insulated and PVC sheathed power cable of 1.1 kV grade of size not exceeding 25 Sq.mm in the existing masonry open duct as required.	meter	26.00
10	Laying of one number PVC insulated and PVC sheathed power cable of 1.1kV grade of size exceeding 25Sq.mm but not exceeding 400 Sq.mm in the existing masonry open duct as required.	meter	68.00

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
11	Laying of one number PILC/PVC insulated and PVC sheathed power cable of grade exceeding 1.1kV but not exceeding 11kV of size not exceeding 120 Sq.mm direct in ground including excavation sand cushioning, protective covering and refilling the trench etc. as required.	meter	103.00
12	Laying of one number PILC/PVC insulated and PVC sheathed power cable of grade exceeding 11kV of size exceeding 120 Sq.mm but not exceeding 400 Sq.mm direct in ground including excavation sand cushioning, protective covering and refilling the trench etc. as required	meter	114.00
13	Laying of one number additional PILC/PVC insulated and PVC sheathed power cable of grade exceeding 1.1kV but not exceeding 11kV of size not exceeding 120 Sq.mm direct in ground in the same trench in one tier horizontal formation including excavation, sand cushioning, protective covering and refilling the trench as required.	meter	127.00
14	Laying of one number additional PILC/PVC insulated and PVC sheathed power cable of grade exceeding 1.1kV but not exceeding 11kV of size exceeding 120 Sq.mm but not exceeding 400 Sq.mm. direct in ground in the same trench in one tier horizontal formation including excavation, sand cushioning, protective covering and refilling the trench etc. as required.	meter	219.00
15	Laying of one number PILC/PVC insulated and PVC sheathed power cable of grade exceeding 1.1kV but not exceeding 11kV of size not exceeding 400 Sq.mm in the existing RCC / Hume / Stoneware / G.I. Pipe as required.	meter	64.00
16	Laying of one number PILC/PVC insulated and PVC sheathed power cable of grade exceeding 1.1kV but not exceeding 11kV of size not exceeding 400 Sq.mm. in the existing masonry open duct as required.	meter	52.00
17	Laying and fixing of one number PVC insulated and PVC sheathed aluminium conductor cable of 1.1kV grade of size not exceeding 25 Sq.mm on surface etc. as required.	meter	55.00
18	Laying and fixing of one number PVC insulated and PVC sheathed aluminium conductor cable of 1.1kV grade of size exceeding 25 Sq.mm but not exceeding 120 Sq.mm on surface etc. as required.	meter	70.00



<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (in Rs.)</b>
19	Laying and fixing of one number PVC insulated and PVC sheathed aluminium conductor cable of 1.1kV grade of size exceeding 120 Sq.mm but not exceeding 300 Sq.mm on surface etc. as required.	meter	115.00
14.11	Laying of underground cable armoured./ unarmoured as per specification in air with approved type of iron clamps complete.		
1	2 / 3 / 4 Core cable upto 16 Sq.mm	meter	32.00
2	3 / 3½ / 4 Core cable 25 Sq.mm to 120 Sq.mm	meter	44.00
3	3 / 3½ / 4 Core cable 150 Sq.mm and above	meter	57.00
14.12	Laying of cement concrete or approved type of cable cover/flag stone over L.T. cover trench as per specification.	meter	44.00
14.13	Supplying of approved type precast R.C.C. cable cover class EHV/HVP at site inclusive of transport required.		
1	Cable cover class EHV-type-I with peak size 450 x 230 x 50mm.	Each	50.00
2	Cable cover class EHV-type-I with peak size 600 x 230 x 50mm.	Each	75.00
3	Cable cover class HVP-type-I with peak size 300 x 180 x 40mm.	Each	26.00
4	Cable cover class HVP-type-II with peak size 450 x 180 x 40mm.	Each	38.00
5	Cable cover class HV-type-I flat size 300 x 180 x 40mm	Each	26.00
6	Cable cover class HV-type-II flat size 450 x 180 x 40mm	Each	37.00
7	Cable cover class LV-type-I flat size 250 x 150 x 40mm	Each	19.00
8	Cable cover class LV-type-II flat size 300 x 180 x 40mm	Each	27.00
9	Cable cover class LV-type-III flat size 450 x 180 x 40mm	Each	41.00
14.14	Fixing Route Marker with cement concrete 1:2:4 (1cement and 2 coarse sand :4graded stone aggregate 20mm nominal size) of size 60cm x 60cm at the bottom and 50cm x 50cm at the top with a thickness of 10cm including inspection duly engraved as required.	Each	124.00
14.15	Supplying Route Marker with 10cm x 10cm G.I. Plate 5mm. Thick with Inspection thereon bolted/welded to 35mm x 35mm x 6mm angle iron 60cm long and fixing the same in ground as required.	Each	243.00

**CHAPTER -15**

**TRANSFORMERS & FIRE EXTINGUISHER**

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (In Rs.)</b>
15	Supplying, installing, testing and commissioning of 11/0.4 K.V. 3 Phase 50 Cycle oil immersed, naturally cooled, out door type transformer connected delta on H.T. side and star on L.T. side hand operated off load, Tap changer switch,above 100 kVA rating and diagram plate, two earthing terminal, lifting lugs, oil level guage, drain valve with plug, temperature not exceeding 50°C on load, oil conservator with drain plug, oil filling hole with plug dehydrating silica gel breather, four unidirectional roller, arcing horns, explosion vent, terminal arrangement bushing on H.V. side and cable box on LV side, first filling of oil upto desired level and transformer installing on existing structure with all Required materials arrangements as required as per IS specification.		
15.1	Aluminium wound		
1	25 kVA	Each	63110.00
2	63 kVA	Each	94036.00
3	100 kVA	Each	104415.00
4	200 kVA	Each	196760.00
15.2	Copper wound		
1	200 kVA	Each	271913.00
2	315 kVA	Each	431522.00
3	500 kVA	Each	476995.00
15.3	Supplying installing and testing of AB isolating switch assembly set gang operated suitable for 11/0.4 KV, DP structure with brass part contacts, operating rod with required GI pipe, handle locking arrangement on On-Off position conforming to IS complete with required material and installing on existing structure to complete the job as required as per specification.		
1	11 kV	set	6352.00
2	33kV	set	14191.00
15.4	Supplying, installing ,testing of 11 KV D.O. fuse assembly with brass part contact for 11/0.4 KV DP Structure set of 3 with fuse with barrel with required fuse element & other materials as per specification on existing D.P. structure as required.(set of 3nos.)		
1	11kV	set	4405.00
2	33kV	set	11397.00
15.5	Supplying & fixing of Fire Extinguisher/Refills as per IS specification :-		
1	Dry chemical powder (DCP) type- 5kg dully refilled and ready to use	each	2398.00
2	ABC type dully refilled and ready to used	each	4620.00
3	Co2 type dully refilled and ready to used	each	7144.00
4	Dry chemical powder (DCP) type- 5kg refill only	each	434.00
5	ABC type refill only	each	833.00
6	Co2 type refill only	each	549.00
7	4 bucket set with stand and sand dully painted red	each	2006.00
15.6	Supplying, installing, testing and commissioning of 11/root3/ KV 250V (Aluminium) core wound type distribution transformers :		
	(i) 10 KVA	Each	35774.00
	(ii) 16 KVA	Each	39208.00
	(iii) 25 KVA	Each	46127.00
15.7	Supplying, installing, testing and commissioning of LT Distribution Box with TPN isolator 200 amper on incoming,bus bar and 66 S.P.M.C.C.B.of 60 A" .on outgoing side for 63 KVA transformer		
	(i)Supplying, installing, testing and commissioning of LT Distribution Box with TPN isolator 200 amper on incoming,bus bar and 66 S.P.M.C.C.B.of 60 A" .on outgoing side for 63 KVA transformer	Each	14111.00

S.No.	Description of Item	Unit	Rates (In Rs.)
	(i) Supplying, installing, testing and commissioning of LT Distribution Box with TPN isolator 200 amper on incoming, bus bar and 6 S.P.M.C.C.B. of 90 A" .on outgoing side for 100 KVA transformer	Each	14702.00
	(i) Supplying, installing, testing and commissioning of LT Distribution Box with TPN isolator of 600 amper on incoming, bus bar and 6 S.P.M.C.C.B. of 120 A" .on outgoing side for 200 KVA transformer	Each	26523.00
15.8	Supplying, installing, or stay wires		
	(i) 7/4.00 mm (7/8 SWG)	KG	64.00
	(ii) M.S. Nuts and Bolts	KG	50.00
15.9	Supplying, installing, testing 1100 Volts Grade Aluminium conductor XLPE, LT Cable Single core Armoured		
	(i) 25 Sq.mm.	Kms	26824.00
	(ii) 50 Sq.mm.	Kms	40990.00
	(iii) 120 Sq.mm.	Kms	98550.00
	(iv) 185 Sq.mm.	Kms	149061.00
15.10	Supplying, installing, testing and commissioning of 11 KV C.Ts. (Outdoor oil filled type) : with accuracy class 0.5		
	(i) 200-100/5 Amp	Each	8387.00
	(ii) 300-150/5 Amps	Each	8911.00
	(iii) 500-250/5 Amps	Each	9645.00
15.11	Supplying, installing, testing and commissioning of 33 KV C.Ts. (Outdoor oil filled type) : with accuracy class 0.5		
	(i) 200-100/5 Amp	Each	12161.00
	(ii) 300-150/5 Amps	Each	13224.00
	(iii) 500-250/5 Amps	Each	16910.00
15.12	Supplying, installing, testing and commissioning of Lightning Arrestors		
	(i) 11 KV Gapless, line type	Each	485.00
	(ii) 33 KV Gapless line type	Each	4785.00
	(iii) 33 KV Gapless Station Type	Each	11499.00
15.13	Supplying, installing, testing of earth Coil (coil of 115 turns of 50mm dia, and 2.5 Mtrs. Lead of 4 mm G.I wire.	Each	241.00

**CHAPTER-16**

**HIGH MAST**

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (In Rs.)</b>
16.1	<p>Providing and erection of 12.5 meter high mast lighting system suitable to install 8 No. 150 w LED flood light fitting and control gear with integral Power tool, weight 340 kg. comprising of 2 section of hot dipped galvanized materials as per BSEN ISO 1461 thickness 3 mm, dia 100mm &amp; 360mm for top and bottom respectively, stress fitting arrangement on site with 350mm overlap dynamic loading to withstand max wind pressure as per -IS 875 part III, parameters for structural &amp; foundation design must be taken from wind tunnel test. Lightning protection of GI single spike 800mm at top and at base inside compartment with double internal lock with adequate size of MCB erected on PVC board complete with base plate of 25mm thick 520mm dia. and foundation bolts having 4 nos. bolts of 24mm dia, 750mm long (EN8 grade), Anchor plate 445 PCD, including accessories viz.</p> <p>(1) Lantern carriage of 50 NB ERW class-B,MS pipe covered with PVC sleeve suitable to carry 250kg. load and upto 6 fittings symmetrically.</p> <p>(2) Trailing copper cable 5x2.5 sq.mm,EPR insulated PCP sheathed.</p> <p>(3) Double drum/350kg winch having gear 53:1, oil bath (SAE90/140) arrangement.</p> <p>(4) 2 nos. stainless steel wire ropes 5mm dia (7/19) breaking load capacity 1450 kg.x2.</p> <p>(5) Integral power tool 3-phase, 0.75 HP2m/min single speed.</p> <p>(6) Feeder pillar fabricated out of 14 SWGCRCA sheet and comprise of incoming MCB 32 A TPN switch, HRC fuses, singledial timer, suitable size of contactors for lighting and power tool, 2 nos. outgoing, reversing switch for motor.</p> <p>(7) Foundation drawing, test certificate and guarantee certificate shall be provided by manufacturer. (without fixture and lamp)</p>	each	156193.00
16.2	<p>Providing and erection of 16 meter high mast lighting system suitable to install upto 10 No. 150 w LED flood light and control gear with integral power tool, weight 450 kg. comprising of 2 sections of hot dipped galvanized materials as per BSEN ISO 1461 thickness 3 mm &amp; 4 mm, dia 150mm &amp; 360mm for top and bottom respectively, stress fitting arrangement on site with 500 mm overlap dynamic loading to withstand max wind pressure as per -IS 875 part III, parameters for structural &amp; foundation design must be taken from wind tunnel test. Lightning protection of GI single spike 1200 mm at top and at base inside compartment having double internal lock with adequate size of MCB erected on PVC board complete with base plate of 25mm thick 520 mm dia. and foundation bolts having 6 nos. bolts of 24mm dia 750 mm long (EN.8 grade) anchor plate 445 PCD, including accessories viz.</p> <p>(1) Lantern carriage of 50 NB ERW class-B, MS pipe covered with PVC sleeve suitable to carry 500kg. load and upto 8 fittings symmetrically.</p> <p>(2) Trailing copper cable 5x2.5 sq.mm, PVC insulated PVC Sheathed</p> <p>(3) Double drum 350Kg Winch having gear 53:1, oil bath (SAE90/140) arrangement</p> <p>(4) 2 nos. Stainless steel wire ropes 5 mm dia (7/19) breaking load capacity 1450 kg x 2,</p> <p>(5) Integral power tool 3-phase, 0.75HP 2m/min single speed .torque limiter upto 500 kg adjustable</p> <p>(6) Single LED 300 Nos. aviation light</p> <p>(7) Feeder pillar fabricated out of 14 SWG CRCA sheet and comprise of incoming MCB 32 A TPN switch, HRC fuses, single dial timer, suitable size of contactors for lighting and power tool, 2 nos. outgoing, reversing switch for motor.</p> <p>(8) Foundation drawing, test certificate and guarantee certificate shall be provided by manufacturer. (without fixture and lamp)</p>	each	245646.00
16.3	<p>Providing and erecting 9 mtrs. High hot dipped galvanized octagonal poles with bottom of 200mm A/F, top 100mm, A/F made from 3mm thick HT plate &amp; 290x290x16mm base plate with 1500mm long decorative sword type double arm bracket complete erected in an approved manner on provided foundation. Suitable size &amp; type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade)</p>	each	31094.00
16.4	<p>Providing and erecting 9mtrs. High hot galvanized octagonal poles with bottom of 155mm A/F, top 70mm A/F made from 3mm thick HT plate &amp; 260x260x16mm base plate with 1500mm long decorative sword type double arm bracket complete erected in an approved manner on provided foundation. Suitable size &amp; type of foundation bolts. 4 nos. bolts type M20x750mm 'J' type foundation bolts (EN8 grade)</p>	each	22589.00

S.No.	Description of Item	Unit	Rates (In Rs.)
16.5	Designing & casting of Open raft shallow footing foundation with M-20 cement concrete suitable for 12.5mtrs. High Mast considering the safe soil bearing capacity at site as 10 T/sqm at 2mtrs. Depth including excavation, foundation nut bolts in an approved manner.	each	27459.00
16.6	Designing & casting of Open raft shallow footing foundation with M-20 cement concrete suitable for 16mtrs. High Mast considering the safe soil bearing capacity at site as 10 T/sqm at 2mtrs. Depth including excavation, foundation nut bolts in an approved manner.	each	30691.00
16.7	Designing & casting with M-20 cement concrete foundation suitable for 9 mtrs. Octagonal poles considering the safe soil bearing capacity at site as 10 T/sqm at 2 mtrs. Depth including excavation, foundation nut bolts in an approved manner.	each	16145.00
16.8	Providing and erection of 20 meter high mast lighting system suitable to install upto 10 No. 200 W LED flood light and control gear with integral Power tool, weight 450 kg. comprising of 2 sections of hot dipped galvanized materials as per BSEN ISO 1461 thickness 3 mm & 4 mm, dia 150mm & 410mm for top and bottom respectively, stress fitting arrangement on site with 500mm overlap dynamic loading to withstand max wind pressure as per -IS 875 part III, parameters for structural & foundation design must be taken from wind tunnel test. Lightning protection of GI single spike 1200mm at top and at base inside Compartment having double thickness 3 mm & 4 mm, dia 150mm & 410mm for top and bottom respectively, stress fitting arrangement on site with 500mm overlap dynamic loading to withstand max wind pressure as per -IS 875 part III, parameters for structural & foundation design must be taken from wind tunnel test. Lightning protection of GI single spike 1200mm at top and at base inside compartment having double internal lock with adequate size of MCB erected on PVC board complete with base plate of 25mm thick 570mm dia. and foundation bolts having 8 nos. bolts of 30mm dia 850 mm long (EN.8 grade) Anchor plate 490 PCD, including accessories viz. (1) Lantern carriage of 50 NB ERW class-B, MS pipe covered with PVC sleeve suitable to carry 500kg. load and upto 10 fittings symmetrically. (2) Trailing copper cable 5x4.0 sq.mm,PVC insulated PVC sheathed (3) Double drum 750Kg Winch having gear 53:1, oil bath (SAE90/140) arrangement. (4) 2 nos. stainless steel wire ropes 6 mm dia (7/19) breaking load capacity 2350 kg.x 2, (5) Integral power tool 3-phase, 1HP 2m/min single speed .torque limiter upto 500 kg adjustable (6) 2 Nos. LED 300 nos. aviation light (7) Feeder pillar fabricated out of 14 SWG CRCA sheet and comprise of incoming MCB 63 A TPN switch, HRC fuses, single dial timer, suitable size of contactors for lighting and power tool, 2 nos. outgoing, reversing switch for motor. (8) Foundation drawing, test certificate and guarantee certificate shall be provided by manufacturer. (without fixture and lamp)	each	372729.00
16.9	Providing and erecting 25 mt LED high mast light system with 16 nos, 250 watt LED flood light complete with control gear and lamps with integral power tool, weight 1000 kg having 3 section hot dip galvanized material as per BSEN ISO 1461 thick of 3 mm & 4 mm dia / 5 mm 150 top and 460 bottom respectively. The mast shall be stress fitted at site as per IS overlap dyanamic loading to with standard maximum wind pressure as per IS 875 part III and parmeters of structures and foundation desingn should be taken form wind tunnel test. The mast shall have lighting protection of GI single spike of 1200 mm length at top. The base inside compartment with double internal lock with adequate size of MCB mounted on PVC board complete with base palte of 30 mm thick 670 mm diameter and foundation bots having 8 nos bots of 30 mm/850 MM daimeter (TS 600) anchor plate 590 PCD including accessories Viz (1) Lnatern carriage of 50 NB ERW calss B pipe covered with PVC sleeves suitable to carry 750 KG load and upto 16 fitting symmmetricaly (2) Traliling copper cable of 8x2.5 sqmm EPR insulaed PVC shetehed (3) Double drum winch having gear ration 531 oil bath (SAE/90/140) arrangement to be Type tested from NIT or IIT for (4) 2 nos stainless wire ropes 6 mm diameter(7/19) oreaing load capacity 2400 kg x2 (5) integral power tool 3 phase 1.5 HP 2 m/min single speed Tourque limited 750 Kg (6) Feeder pillar out of 14 SWG CRCA sheet and comparaise of incoming 63 A TPN MCB single dial timer, sutiable size of contractotrs for lighting and power tool, 2 nos. outgoing and reversing switch of motor.Twin doam avation light 2 no.s 100 watt lamp.	each	455919.00

S.No.	Description of Item	Unit	Rates (In Rs.)
16.10	<p>Providing and erecting 30 mt LED high mast light system with 16 nos, 250 watt LED flood light complete with control gear and lamps with integral power tool, weight 1650 kg having 3 section hot dip galvanized material as per BSEN ISO 1461 thick of 4 mm &amp; 4 mm dia / 6 mm 150 top and 610 bottom respectively. The mast shall be stress fitted at site as per IS overlap dynamic loading to with standard maximum wind pressure as per IS 875 part III and parameters of structures and foundation design should be taken from wind tunnel test. The mast shall have lightning protection of GI single spike of 1200 mm length at top. The base inside compartment with double internal lock with adequate size of MCB mounted on PVC board complete with base plate of 30 mm thick 840 mm diameter and foundation bolts having 12 nos bolts of 30 mm/850 MM diameter (TS 600) anchor plate 740 PCD including accessories Viz</p> <p>(1) Lateral carriage of 50 NB ERW class B pipe covered with PVC sleeves suitable to carry 1000 KG load and upto 20 fitting symmetrically</p> <p>(2) Trailing copper cable of 8x4 sqmm EPR insulated PVC sheathed</p> <p>(3) Double drum winch having gear ratio 531 oil bath (SAE/90/140) arrangement to be Type tested from NIT or IIT for</p> <p>(4) 2 nos stainless wire ropes 6 mm diameter(7/19) breaking load capacity 3450 kg x2</p> <p>(5) integral power tool 3 phase 2 HP 2 m/min single speed Torque limited 1000 Kg</p> <p>(6) Feeder pillar out of 14 SWG CRCA sheet and comparison of incoming 63 A TPN MCB single dial timer, suitable size of contactors for lighting and power tool, 2 nos. outgoing and reversing switch of motor. Twin dome aviation light 2 nos 100 watt lamp.</p>	each	539317.00
16.11	Supply of non integral flood fittings of 2x400 watt MH asymmetric 6 fold light type BGENF 22 (without lamp)	each	15381.00
16.12	Supply of non integral flood fittings of 1x400 watt MH asymmetric 7 fold light type BGENF 21 S (without lamp)	each	8012.00
16.13	Maintenance of High mast panel :- all material to be used shall be ISI marked.		
16.13.1	Change of timer reknowned make.	Each	3091.00
16.13.2	Change of Contactor reknowned make.	Each	2520.00
16.13.3	Change of MCB'S 63 amp TPN	Each	161.00
16.13.4	Change of digital timer	Each	1187.00
16.13.5	Holder 500 W	Each	169.00
16.13.6	Connector Cable Catcher	Each	41.00
16.13.7	Male/Female Socket	Each	124.00

**CHAPTER-17**

**G.I. PIPES AND PUMP SETS**

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (In Rs.)</b>
17	Supplying & installing G.I. Pipe for protection of underground cable fixed on wall/support/in trench/fixed between two rigid existing support of wall/beam for erection of ceiling Fan/down rod for stiff pendent for light luminaries /fan/protective for earthing, lightning conductor down strip/everhead service line/for submer cable or centrifugal pump for water supply with necessary iron clamp coupler, bend, te, elbow, nuts and bolts etc. complete in an approved manner as required to complete the job excluding cost of excavation/dismantling & other finished masonry Item complete.		
17.1	For 'B' Class G.I.pipe ISI Marked (IS-1161-68)		
1	15mm	meter	82.00
2	20.00mm	meter	102.00
3	25.00mm	meter	136.00
4	32.00mm	meter	164.00
5	40.00mm	meter	208.00
6	50.00mm	meter	259.00
7	65.00mm	meter	347.00
8	80.00mm	meter	420.00
9	100.00mm	meter	720.00
10	125.00mm	meter	961.00
11	150.00mm	meter	1143.00
17.2	A' Class G.I.Pipe ISI Marked (IS-1161-69)		
1	32.00mm	meter	152.00
2	40.00mm	meter	213.00
3	50.00mm	meter	243.00
4	65.00mm	meter	329.00
5	80.00mm	meter	410.00
6	100.00mm	meter	568.00
17.3	Supply and laying rigid PVC single socket end, non-metallic pipe ISI Marked (IS-4985-2000)class 5 for protection of under ground cable/or for water pump delivery side, for water supply complete with necessary clamp coupler, band, Tee, Elbow etc. in an approved manner excluding cost of excavation etc.		
1	50.00mm O.D	meter	88.00
2	75.00mm O.D	meter	210.00
3	110.00mm O.D	meter	433.00
17.4	Supplying and installing Double wall corrugated pipes (DWC) of HDPE ( IS 14930 Part II -marked ) for cable laid under ground with necessary connecting sockets/ couplings,tees of same material and at required depth upto 90cm. below road/ground surface,including excavation, back filling with excavated material with ramming and making the surface good.		
1	50.00mm outside dia.	meter	178.00
2	63.00mm outside dia.	meter	193.00
3	77.00mm outside dia.	meter	190.00

S.No.	Description of Item	Unit	Rates (In Rs.)
4	90.00mm outside dia.	meter	238.00
5	110.00mm outside dia.	meter	294.00
6	120.00mm outside dia.	meter	307.00
7	145.00mm outside dia.	meter	330.00
8	160.00mm outside dia.	meter	371.00
9	175.00mm outside dia.	meter	375.00
10	200.00mm outside dia.	meter	443.00
17.5	"B" Monoblock type pumping sets		
	(a) 2 H.P.	Each	10812.00
	(b) 3 H.P.	Each	12293.00
	(c) 5 H.P.	Each	16059.00
	(d) 7.5 H.P.	Each	19499.00
	(e) 10 H.P.	Each	25788.00
17.6	Supplying of ISI Marked Direct On-Line Starters confirming to IS : 13947-4 with suitable over load relay range and contactor size, 415 V , 3 -Phase with two earthing terminals		
17.6.1	0.75 / 1.0 / 2.0 / 3.0 / 5.0 / 7.5 HP	Each	1279.00
17.6.2	10 HP	Each	1518.00
17.7	Supplying of ISI Marked Automatic Star-Delta Starters confirming to IS : 13947-4 with suitable over load relay range and contactor size & timer 415 V , 3 -Phase with two earthing terminals		
1	10.0 HP	Each	5015.00
2	12.5 / 15.0 HP	Each	5055.00
3	20 HP	Each	6122.00
4	25 HP	Each	6335.00
5	30 HP	Each	8007.00
6	35 HP	Each	9951.00
7	50 HP	Each	15571.00
8	60 HP	Each	24141.00
9	75 HP	Each	24777.00
17.8	Labour charges for taking out the submerisble pumping set for tubewell after complition of yield test or development of tubewell.		
1	submerisable pumping sets upto 2.2 KW	Each	1367.00
2	submerisable pumping sets upto 2.2 KW to 7.5 KW	Each	1520.00
3	submerisable pumping sets above 7.5 KW	Each	1596.00



**CHAPTER-18****SOLAR STREET LIGHT SYSTEM**

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (In Rs.)</b>
18.1	Porviding,erecting, testing and commissioning solar street light system on 80 mm heavy duty galvanised iron pipe 6 meter hight with 30cm x 30cm x 2mm base plate installed own cement concrete padestal casing complete with solar panel, solar battery with charger,other accessories with control panel in weather proof pole box,solar fitting LED type or CFL type 18 watt to 20 watt (set of 2 nos.)	each	30748.00

**CHAPTER-19**

**SUPPLY & FIXING LED LIGHTS**

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (In Rs.)</b>
19.1	Supply and fixing of LED tube rod comprising of LED tube with non integral / integral driver, 6500K color temp having 40000 burning hrs life with minimum @ L 70, system lumen output should be minimum with efficacy > 80 lm/W. LED driver PF 0.95 & THD < 20%. The colour rendering index of LED light should be more than 70. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer mandatory i/c connection wire, testing etc.to complete the job. 2 Yrs Guarantee certificate from manufacturer.		
19.1.1	1 X 5/8W Integral Tube fitting complete	Each	366.00
19.1.2	1 X 18/20/22W, Integral	Each	439.00
19.1.3	1 X 18/20/22W, Non Integral with driver	Each	439.00
19.2	Supply LED Retrofit tube only 18/20/22W 3 - 6K without box suitable for replacing existing 36/40W FTL	Each	329.00
19.3	Supply of Mounting rail / Batten made of CRCA powder coated with suitable lamp holding brackets for LEDTube rod 1200mm Single on wall / ceiling including connection testing etc complete as required.	Each	110.00
19.4	Supply of recessed mounting type Led light fixture, LED of 1 to 3 W each assembled on single MCPCB, having color temp 6500K & having 50000 burning hrs life with minimum @ L 70, system lumen output should be minimum with efficacy>80lm/W. LEDdriver, PF 0.95 & THD < 20%. The colour rendering indexof LED light should be more than 70. Housing made ofCRCA with glare free diffused polycarbonate cover. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer manadatory i/c connection wire, testing etc.to complete the job. 2 Yrs Guarantee certificate frommanufacturer.		
19.4.1	Led luminiare 1' X 1', 24W , 4-6.5k	Each	2194.00
19.4.2	Led luminiare 2' X 2', 36W, 4-6.5K	Each	3413.00
19.4.3	Led luminiare 2' X 2', 45W, 4-6.5K	Each	3950.00
19.5	Supply of surface mounting type Led light fixture, LED of 1 to 3 W each assembled on single MCPCB, having color temp 6500K & having 50000 burning hrs life with minimum @ L 70, system lumen output should be minimum with efficacy>80lm/W. LEDdriver, PF 0.95 & THD < 20%. The colour rendering indexof LED light should be more than 70. Housing made ofCRCA with glare free diffused polycarbonate cover. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer manadatory. i/c connection wire, testing etc.to complete the job. 2 Yrs Guarantee certificate from manufacturer.		
19.5.1	Led luminiare 1' X 1', 24W , 4-6.5k	Each	2316.00
19.5.2	Led luminiare 2' X 2', 36W , 4-6.5k	Each	3901.00
19.5.3	Led luminiare 2' X 2', 45W , 4-6.5k	Each	4169.00

S.No.	Description of Item	Unit	Rates (In Rs.)
19.6	Supplying and fixing surface mounting LED down lighter, LED of 1 to 3 W each assembled on single MCPCB, having color temp 6500K & having 50000 burning hrs life with minimum @ L 70, system lumen output should be minimum with efficacy > 80lm/W. LED driver PF 0.95 & THD < 20%. The colour rendering index of LED light should be more than 70. Housing made of CRCA powder coated frame with glare free diffused polycarbonate cover. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer mandatory. i/c connection wire, testing etc. to complete the job. 2 Yrs Guarantee certificate from manufacturer.		
19.6.1	7 W/8 W, 100/150mm	Each	610.00
19.6.2	15 W, 180/200mm	Each	1463.00
19.6.3	30 W, 300mm	Each	2194.00
19.7	Supplying and fixing recessed mounting LED down lighter, LED of 1 to 3 W each assembled on single MCPCB, having color temp 6500K & having 50000 burning hrs life with minimum @ L 70, system lumen output should be minimum with efficacy > 80lm/W. LED driver PF 0.95 & THD < 20%. The colour rendering index of LED light should be more than 70. Housing made of CRCA powder coated frame with glare free diffused polycarbonate cover. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer mandatory. i/c connection wire, testing etc. to complete the job. 2 Yrs Guarantee certificate from manufacturer.		
19.7.1	8 W, 100/150mm	Each	853.00
19.7.2	12 W, 180/200mm	Each	1212.00
19.7.3	15 W, 180/200mm	Each	1707.00
19.8	Supplying of integral post top lantern LED fitting comprises of copper dust finish cast aluminium spigot and spun aluminium canopy fixed with opal polycarbonate, pipe arrangement for vertical mounting, open construction driver and accessories are wired up to terminal block. LED of 1 to 3W each assembled on single MCPCB, having color temp 6500K & having 50000 burning hrs life with minimum @ L70, system lumen output should be minimum with efficacy > 80lm/W. LED driver PF 0.95 & surge protection 2KV. The colour rendering index of LED light should be more than 70. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer mandatory. i/c connection wire, testing etc. to complete the job. 2 Yrs Guarantee certificate from manufacturer.		
19.8.1	40 watt.	Each	9143.00
19.8.2	25 watt.	Each	4106.00
19.9	Supplying of street light with high power LED of 1 to 3 W each assembled on single MCPCB, system lumens output with efficacy > 110 lm/W. luminaire having color temp 6500K & 50000 burning hrs life with minimum @ L 70, The colour rendering index of LED light should be more than 70. Luminaire comprises of driver, PF 0.95 & surge protection 4KV. Housing made of pressure die cast aluminium with heat resistant flat glass / Lens type, IP66 protection. Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer mandatory i/c 50mm.dia G.I. Pipe bracket upto 2 mtr. long in required angle/shape, connection lead, testing etc to complete the job. 2 Yrs Guarantee certificate from manufacturer.		

S.No.	Description of Item	Unit	Rates (In Rs.)
19.9.1	24W / 25W	Each	2194.00
19.9.2	40W / 48W	Each	3657.00
19.9.3	60W	Each	5486.00
19.9.4	90W	Each	6912.00
19.9.5	120W	Each	9216.00
19.9.6	150W	Each	11520.00
19.10	Supplying of flood light with high power LED of 1 to3 W each assembled on single MCPCB, system lumens output with efficacy>110 lm/W. luminaire having color temp 6500K & 50000 burning hrs life with minimum @ L 70, The colour rendering index of LED light should be more than 70. Luminaire comprises of driver, PF 0.95 & surge protection 4 KV. Housing made of pressure die castaluminium with heat resistant flat glass, IP66 protection.Submission LM 80-08 Form LED Source Manufacturer & LM79-08 / IS16106 from NABL approved lab. Manufacturer mandatory i/c connection lead, testing etc to complete the job. 2 Yrs Guarantee certificate from manufacturer.		
19.10.1	10 W	Each	1463.00
19.10.2	30W	Each	2962.00
19.10.3	60W,	Each	5486.00
19.10.4	90W,	Each	6912.00
19.10.5	120W,	Each	9216.00
19.10.6	150W,	Each	11520.00
19.10.7	200W	Each	12591.00
19.10.8	250W	Each	14622.00
19.11	Supplying Fixing and testing of approved and suitable make LED driver for an existing LED luminaire panel.		
19.11.1	LED Luminaire 1'x1', 24W Panel Driver	Each	558.00
19.11.2	LED Luminaire 2'x2', 36W Panel Driver	Each	670.00
19.12	Supplying fixing and testing of approved and suitable make LED driver for an existing LED street light.		
19.12.1	24Watt to 25Watt, color temp 3000-6500k	Each	537.00
19.12.2	40Watt to 48Watt, color temp 3000-6500k	Each	903.00
19.12.3	60Watt, color temp 3000-6500k	Each	1135.00
19.12.4	90Watt, color temp 3000-6500k	Each	1683.00
19.12.5	120Watt, color temp 3000-6500k	Each	2279.00
19.12.6	150Watt, color temp 3000-6500k	Each	2582.00
19.13	Supplying, fixing and testing of suitable LED driver for an existing LED Flood light.		
19.13.1	60Watt, color temp 3000-6500k	Each	808.00
19.13.2	90Watt, color temp 3000-6500k	Each	1420.00
19.13.3	120Watt, color temp 3000-6500k	Each	1546.00
19.13.4	150Watt, color temp 3000-6500k	Each	2046.00

**CHAPTER-20**

**ENERGY SAVING AND PROTECTION SOLUTIONS FOR BUILDINGS**

<b>S.No.</b>	<b>Description of Item</b>	<b>Unit</b>	<b>Rates (In Rs.)</b>
20.1	Light Dependent Relay (LDR) — Pole Mounting for Outdoor Lights Supply, installation, testing and commissioning of 230 V AC operated LDR shall have an operating range of 96. . . 253V AC with 1 NO, 16 A, AgSnO2 Contact material with starting current of 120A and Light Dependent Relay with a lux sensitivity adjustment of 1 to 80 Lux shall operate on 230 v AC with an operating voltage range of 0.8 to 1.1 times that of nominal voltage. The contacts shall be rated for 16 Amp, Cadmium free along with the cadmium free light sensor and shall operate at an ambient temperature of - 30 deg C to + 70 deg C. The electrical service life of LDR shall be 1 Lakh Switching Cycles at FULL LOAD. The Dielectric strength between open contacts should be 1000 V AC and conducted disturbance immunity i.e. surge (1.2/50 µs) on Land N (differential mode) of 4KV. The LDR shall have necessary approvals like CE, GOST and IMQ and shall be IP 54 protected and able to switch Phase and Neutral lines for LED Lamp Load of 400 Watt with Light Feedback Compensation.	Each	4448.00
20.2	Light Dependent Relay (LDR) - Panel Mounting For Lighting control Supply, installation, testing and commissioning of 230 V AC operated LDRs shall have an operating range of 96...253V AC with 1 NO, 16 A, AgSnO2 Contact material with starting current of 120A and Light Dependent Relay with a lux sensitivity adjustment of 1 to 1000 Lux shall operate on 230 V AC with an operating voltage range of 0.8 to 1.1 times that of nominal voltage. The changeover contacts shall be rated for 16 Amp, Cadmium free along with the cadmium free light sensor and shall operate at an ambient temperature of -20 deg C to + 50 deg C. The electrical service life of LDR shall be 100X103 with Dielectric strength between open contacts of 1000 V AC and conducted disturbance immunity i.e. surge (1.2/50µs) on L and N (differential mode) of 4 kV. The LDR shall have necessary approvals like CE, GOST and IMQ and shall be Lighting Sensor IP 54 and LDR IP 20 protected, able to switch Phase lines for LED Lamp Load of 400 Watt with Light feedback compensation and Zero hysteresis for energy saving.	Each	3658.00
20.3	Astro Time Switch-For lights On – Off based on Sunrise & Sunset timing Supply, installation, testing and commissioning of Astro - Time Switch based on Astro program i.e. calculation of sunrise and sunset times through date, time and Indian PIN Codes. It shall have an option of Astro ON period override by time switch and Offset function which allows programming of switching times Offset from the astronomic time. The 230 V AC operated Astro Time Witch shall have an operating range of 96...253V AC with 1 NO, 16 A, AgSnO2 Contact material with Starting current of 120A and 1 CO cadmium Free contacts, it shall have LCD status indication with back light display along with internal easily replaceable battery on the front side for set-up and programming. The electrical life at rated load AC1 shall be 1 Lakh cycles and shall work at an ambient temperature of -20 to +50 deg C. It shall have a dielectric strength between supply and open contacts of 4000V AC, between open contacts 1000V AC respectively and rated impulse voltage (between supply and contacts) of 6kV and rated impulse voltage (between open contacts) of 1.5kV. The mounting shall be on 35 mm DIN rail (EN 60715) and shall have necessary approvals like CE, IMQ and EAC.	Each	3078.00

S.No.	Description of Item	Unit	Rates (In Rs.)
	PIR MOVEMENT DETECTOR :-		
20.4	PIR MOVEMENT DETECTOR - For Corridors, Common Rooms, Stair Cases, Store Room, Washroom Supply, installation, testing and commissioning of 230 V AC operated movement detector shall have an operating range of 96...253V AC with 1 NO, 10 A, AgSnO2 Contact Material with starting current of 100A and shall have universal mounting position to permit the selection of any area of survey with IP 40 protection. It shall have an ambient temperature range of -30 to +50 d C. The Movement Detector shall have a dielectric strength between open contacts of 1000V AC with an electrical life at rated load AC1 of 1 LAKH cycles with necessary approvals like CE, EAC & IMQ.		
(a)	PIR MOVEMENT DETECTOR FOR Stair case:- To be of dual Mounted Type (wall and surface mounted) with the angle of survey shall be 110 degree and depth of field shall be 10 metre, it shall have ambient light intervention threshold of 5...350 Lux. T he movement detector shall have a sensing area of dia 8 metre X 5 metre when ceiling mounted at a height of 2.8 metre. With adjustable light ON time after last detection of 10 sec...12 min.	Each	5760.00
(b)	PIR MOVEMENT DETECTOR FOR Washroom- Ceiling and Surface Mounted angle of survey shall be 360 degree it shall have ambient light intervention threshold of 5...350 Lux. The Movement detector shall have a sensing area of dia 8X 5metre at a height of 12.8meter. With adjustable light ON time after last detection of 10 sec ...12 min	Each	5760.00
(c)	PIR MOVEMENT DETECTOR FOR Corridor:- Ceiling and Surface angle of survey shall be 360 degree it shall have ambient light intervention threshold of 1... 500Lux. The movement detector shall have a sensing' area of 30 X 4 metre when ceiling mounted at a height of 3metre. With adjustable light ON time after last action of 12 sec...35 min,	Each	7156.00
20.5	PIR Movement and Presence Detector Supply, installation, testing and commissioning of 230 V AC operated movement detector shall have an operating rang of 96...253 V AC with 1 NO, 10 A, AgSnO2 Contact material with starting current of 100A and shall have universal mounting position to permit the selection of any area of survey with IP 40 protection. It shall have an ambient temperature range of -30 to +50 deg C. The Movement Detector shall have a dielectric strength between open contacts of 1000V AC with an electrical life at rated load A C 1 of 1 LAKH cycles with necessary approvals like CE and TUV.		
(a)	PIR Movement and Presence Detector:- Office and Meeting room it shall have ambient light intervention threshold of 1...500 Lux and Motion sensing area dia of 8 metre and Presence sensing area dia of 4 metre when ceiling mounted at a height of 3metre. With adjustable light ON time after last detection of 12 sec...35 min.	Each	7143.00
(b)	PIR Movement and Presence Detector:- Conference Hall of High Ceiling it shall have ambient light intervention threshold of 5...350 Lux and Motion sensing area dia of 12 X 8 metre when ceiling mounted at a height of upto 6 metre. With adjustable light ON time after last detection of 30 sec...35 min.	Each	7143.00
20.6	Modular Contactor for the lighting Feeder Panel Supply, installation, testing and commissioning of 25A rating Four pole contactor, designed Specific contact material AgSnO2 for lamp loads and Ac Load for high starting current. It shall work at an ambient temperature of -20 to +50 deg C and Auto-On Off selector version. It shall have 3 Kv short circuit protection. The mounting shall be on 35 mm DIN rail (EN 60715)	Each	4002.00

S.No.	Description of Item	Unit	Rates (In Rs.)
	Surge Overvoltage Protection Device		
20.7	Supply, installation, testing and commissioning of SOVP Device should have Single High Capacity Varistor in the L-N Plug and Encapsulated Spark Gap for N-PE, L-N SOVP should have a Rated Voltage of Minimum 320V AC to handle Indian Power Supply conditions. SOVP Should have Visual indication on replaceable varistor and spark gap modules as well as a potential free contact on the socket for remote indication. SOVP device should be wired up as per TT configuration of wiring in accordance with EN 61643-11 Standards. Both the L-N and N-PE, SPDs should be rated for handling 30KA of nominal 8/20 $\mu$ s surge current.		
(a)	SOVP for High Mast Light- Type 1+2 Pluggable SPD 3+1, Rating L-N/N-PE Uc 275/ 255 V AC, Iimp 12.5/50 KA, Imax 60/100 KA, Up 1.2/1.5 KV	Each	16435.00
(b)	SOVP for Pole Light Sub Feeder Panels - Type 2 Pluggable SPD 3+1, Rating L-N/N-PE Uc 255/320 V In 30/60KA KA, Imax 30Ka/60 KA, Up 1.5KV	Each	5981.00
(c)	SOVP for Pole Light - Type 2 Pluggable SPD 1+1, Rating L-N/N- PE Uc 230/400 V In 5 KA, Imax 10 KA, Up 1.2KV	Each	4355.00
20.8	Three Phase Voltage Monitoring Relay:— For Protection of Sensitive equipment against Under/Over Voltages which are caused due to voltage fluctuations, neutral loss, phase reversals at the end of the Utility Transformers etc.		
	Electronic voltage monitoring relays - Supply, installation, testing and commissioning of Electronic voltage monitoring relays for three phase applications shall be multifunctional type providing the flexibility of monitoring under voltage, over voltage, voltage fault memory, window mode, phase rotation and phase loss. The relay shall be based on positively safe logic. All the functions and values shall be adjusted by selector and trimmer on front side. With a supply voltage of 220 V AC-510 V AC and 6 Amp 1 CO cadmium free contact with a dielectric strength between supply and contacts of 2500 V AC and between open contacts 1000 V AC, it shall have colored LED's for visual indication and shall comply to EN standards EN 6100-4- 2/3/4/5/6/11. The switch-off delay time shall be selectable in a range of 0.5 to 0 sec. The electrical life at rated load AC 1 shall be 60X10 <sup>3</sup> cycles and shall work at an ambient temperature of -20 to +60 deg C. The mounting shall be on 35 mm DIN rail (EN 60715) and shall have necessary approvals like CE and GOST.	Each	6944.00
20.9	Current Monitoring Relay:— For checking the health of the crucial motors, pumps, etc. as an Advance Warning System		
(a)	Programmable universal (AC/DC) current monitoring relay- Supply, installation, testing and commissioning of programmable universal (AC/DC) current monitoring relay shall be usable with current transformer for detecting upper and lower value, upper set point minus hysteresis range (5-50%) for switch ON, lower set point plus hysteresis range (5-50%) for switch ON and Fault memory. It shall be immune to supply interruptions of < 200 ms with detection levels of AC (0.1...10) A at transducer to 600A/ DC (0.... 10) A. The switch off/reaction/start delay shall be for (0.1...12) s/0.35s/(0.1..20)s respectively. The current monitoring relay shall have insulation according to EN 61810-1 with Electrical isolation between supply to measuring circuits and shall comply to EMC specifications as per EN 31000-4-2/3/4/5/6 and EN 55022. It shall work at a supply voltage of 230 V AC with and electrical life at rated load AC 1 shall be 1 Lakh cycles and shall work at an ambient temperature of -20 to +55 deg C. The mounting shall be on 35 mm DIN rail (EN 60715) and shall have necessary approvals like CE and GOST.	Each	4123.00

S.No.	Description of Item	Unit	Rates (In Rs.)
20.10	Room Thermostat - For controlling/Monitoring Room Temperature		
	Touch screen programmable room thermostat - Supply, installation, testing and commissioning of Touch screen programmable room thermostat shall be operated at 3V DC (2 batteries 1.5V DC AAA) shall have a temperature setting range of (+5...+37)°C. It shall be available in daily/ weekly programmable versions and shall have calendar with automatic leap year function with day light saving updates. It shall have 2 level of security-simple touch screen blocking or full 4 digit PIN Lock and shall be IP 20 protected and functions like Frost Protection, Automatic Control, Manual Control, holiday program and pump anti- seizure function with a facility for video and audio confirmation of key and function entry. With a rated power of 5 Amp at 230V AC, it shall have 1 CO contact with On/OFF hysteresis of (0.1 - 0.9)K. It should with weekly Programming facility.	Each	4820.00
20.11	Lightning & Surge protection for Solar Plants on the Building roof For KW Plants:- Type 1 + 2 SPD		
(i)	Surge arrester for protection of DC side(1,000V) of systems- Supply, installation, testing and commissioning of Surge arrester for protection of DC side(1,000V) of systems in photovoltaic applications against overvoltage caused by direct lightning strike - limp 12.5 KA 10/350 µs and induced overvoltage's upto I <sub>max</sub> 30 KA, 8/20 µs and a protection level of 1.8 KV. Short circuit with stand current of 125 A. Has Visual indication of Healthy/Replace status onboard and remote, with Replaceable modules and Complies with prEN 50539-11: 2010	Each	22684.00
(ii)	For Smaller Plants: Type 2 SPD Surge arrester for protection of DC side (420V to 1,200V)- Supply, Installation, Testing and Commissioning of Surge arrester for protection of DC side (420V to 1,200V) of systems in photovoltaic applications upto I <sub>Max</sub> 30 KA, 8/20 µs and a protection level of 2 KV. Short circuit withstand current of 125 A. Has Visual indication of Healthy/ Replace status onboard and remote, with Replaceable modules and Complies with EN 50539-11:2010	Each	25428.00
20.12	Temperature & Humidity Monitoring and Controlling Solutions for Electrical Panels and Rising Mains.		
	Humidity and temperature monitor- Supply, installation, testing and commissioning of Humidity temperature monitor should be Small size to get mounted on a DIN Rail inside the Electrical Panels and Distribution Panels. Operating voltage is 230V AC with LED status indicator lights. Should have relay output to switch on the Space Heater which should be DIN Rail Mountable and Encapsulated with Fire Retardant Housing for Touch Proof and Accident Proof operations. Switching point for temperature and relative Humidity should be adjustable. The Electrical Life Shall be rated for minimum 1 Lakh Cycles	Each	7979.00
20.13	Panel Thermostat		
	Supply, installation, testing and commissioning of 250 V AC operated panel thermostat shall have 1 NO in Heating control and 1 NC in Ventilation control, 10A, AgNi Contact Material and shall have wide temperature setting range -20 to +40 & +0 to +60 deg C in Heating/ ventilation control. It shall have very small and compact size (17.5 mm wide) and thermostat have snap action thermostatic Bimetal sensor. The electrical life at rated load AC 1 shall be 1 Lakh cycles and shall work at an ambient temperature of -45 to +80 deg C. The mounting shall be on 35 mm DIN rail (EN 60715) and shall have necessary approvals like CE and GOST and EAC.	Each	957.00



S.No.	Description of Item	Unit	Rates (In Rs.)
20.14	Filter Fan		
	Supply, installation, testing and commissioning of 230 V AC operated filter fan shall have air volume 14 to 470 m <sup>3</sup> /h With exhaust filter installed in cabinet and Air volume 24 to 630 m <sup>3</sup> /h with free flow. It shall have power consumption is 4 to 130 W and minimal depth with in enclosure and very low acoustic noise. The filter material consists of a synthetic fibre progressive construction which is moisture resistant to 100 degree C and shall work at an ambient temperature of -10 to +70 deg C. The Filter Fan shall have necessary approvals like CE, EAC and UL and shall be IP 54 protected. The Filter mats are to filter class EU3 accordingly DIN 24 185 and have an average filtering degree of 80 to 90 % and The filter fan shall have 50,000 hr life at 40 degree C.	Each	3162.00
20.15	Panel Heater		
	Supply, installation, testing and commissioning of 110 to 230 V AC operated Panel Heater shall have an operating range of 88...253V AC. The Panel Heater shall have heating power of 100W. It shall have PTC resistor, Self-regulating heating system and shall work at an ambient temperature of -45 to +50 deg C. The mounting clip shall be on 35 mm DIN rail (EN 60715) and shall have necessary approvals like CE, UL and should be touch proof.	Each	4820.00
20.16	Water Level Control Relay- Reliable Solution for Tank Water Level Control		
	Supply, installation, testing and commissioning of 230 V AC operated water level control relay should be able to connect three level sensors to detect the water level in the tank. The relay should be IP 20 rated with 1 no, 16 A, AgCdO contact material. It shall have an ambient temperature range of -20 to +60 Deg C and have LED indicator. The reinforced insulation level must be 6 KV – 1.2/50 µs between: supply and contacts, electrodes and supply and contacts and electrodes. It should be able to control about a single level or between min./max. limits with adjustable sensitivity range. The float switch of 8 ampere contact rating should be with 2 watertight chambers, Counterweight (300gm) with TUV approved cable length of 10 meters including grip.	Each	8566.00

**CHAPTER-21**  
**DIESEL GENERATOR SET**

S.No.	Description of Item	Unit	Rates (In Rs.)
21.1	Supply, installation, testing and commissioning of 'Silent Type' diesel generating set comprising with diesel engine water cooled, Synchronous alternator, AMF control panel single/three phase, acoustic enclosure, battery with charger and related accessories including PCC 1:2:4 platform, incoming cable 10 mtr, earthing Cu/GI plate 2No/2No, exhaust pipe 'B' class with insulation as per CPWD specification and CPCB - II Norms		
	<b>Water Cooled</b>		
21.1.1	Supply, installation, testing and commissioning of diesel generating set single phase, water cooled with AMF control panel, 7.5 KVA, 230V.(Single Phase)	Each	243000.00
21.1.2	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 7.5 KVA, 415V.	Each	240800.00
21.1.3	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 15 KVA, 415V.	Each	300200.00
21.1.4	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 20 KVA, 415V.	Each	327000.00
21.1.5	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 25 KVA, 415V.	Each	327000.00
21.1.6	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 30 KVA, 415V.	Each	365500.00
21.1.7	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 40 KVA, 415V.	Each	485000.00
21.1.8	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 50 KVA, 415V.	Each	538500.00
21.1.9	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 62.5 KVA, 415V.	Each	641750.00
21.1.10	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 75 KVA, 415V.	Each	729450.00
21.1.11	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 82.5 KVA, 415V.	Each	769600.00
21.1.12	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 100 KVA, 415V. With electronic governor.	Each	859650.00
21.1.13	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 125 KVA, 415V. With electronic governor.	Each	924450.00
21.1.14	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 150/160 KVA, 415V. With electronic governor.	Each	1257850.00
21.1.15	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 180 KVA, 415V. With electronic governor.	Each	1329200.00
21.1.16	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 200 KVA, 415V. With electronic governor.	Each	1431400.00
21.1.17	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 250 KVA, 415V. With electronic governor.	Each	1814450.00

S.No.	Description of Item	Unit	Rates (In Rs.)
21.1.18	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 300/320 KVA, 415V. With electronic governor.	Each	2122700.00
21.1.19	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 400 KVA, 415V. With electronic governor.	Each	2663650.00
21.1.20	Supply, installation, testing and commissioning of diesel generating set three phase, water cooled with AMF control panel, 500 KVA, 415V. With electronic governor.	Each	3459850.00
21.2	Supply, installation, testing and commissioning of 'Silent Type' diesel generating set comprising with diesel engine air cooled, Synchronous alternator, AMF control panel single/three phase, acoustic enclosure, battery with charger and related accessories including PCC 1:2:4 platform, incoming cable 10 mtr, earthing Cu/GI plate 2No/2No, exhaust pipe 'B' class with insulation as per CPWD specification and CPCB - II Norms		
	<b>Air Cooled</b>		
21.2.1	Supply, installation, testing and commissioning of diesel generating set single phase, air cooled with AMF control panel, 7.5 KVA, 230V.(Single Phase)	Each	255150.00
21.2.2	Supply, installation, testing and commissioning of diesel generating set three phase, air cooled with AMF control panel, 7.5 KVA, 415V.	Each	252850.00
21.2.3	Supply, installation, testing and commissioning of diesel generating set three phase, air cooled with AMF control panel, 15 KVA, 415V.	Each	315200.00
21.2.4	Supply, installation, testing and commissioning of diesel generating set three phase, air cooled with AMF control panel, 20 KVA, 415V.	Each	343350.00
21.2.5	Supply, installation, testing and commissioning of diesel generating set three phase, air cooled with AMF control panel, 25 KVA, 415V.	Each	343350.00
21.2.6	Supply, installation, testing and commissioning of diesel generating set three phase, air cooled with AMF control panel, 30 KVA, 415V.	Each	383775.00
21.2.7	Supply, installation, testing and commissioning of diesel generating set three phase, air cooled with AMF control panel, 40 KVA, 415V.	Each	509250.00
21.2.8	Supply, installation, testing and commissioning of diesel generating set three phase, air cooled with AMF control panel, 50 KVA, 415V.	Each	565450.00