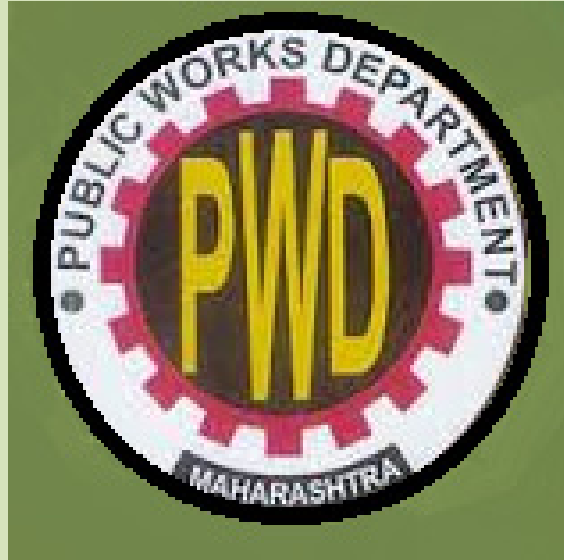




GOVERNMENT OF MAHARASHTRA

PUBLIC WORKS DEPARTMENT

(ELECTRICAL WING)



CURRENT SCHEUDULE OF RATES

FOR THE YEAR 2017-18



सत्यमेव जयते

**GOVERNMENT OF MAHARASHTRA
PUBLIC WORKS DEPARTMENT
(ELECTRICAL WING)**

**CURRENT SCHEDULE OF RATES
FOR THE YEAR
2017 - 2018**

This CSR comes into force from 6th September 2017

This current schedule of rates is approved by the Chief Engineer (Electrical), Public Works Department Mumbai vide letter No.CE(Elec)/Desk-3/2126/2017, dated 06/09/2017.

sd/-
(S.A.Patil)
**Chief Engineer (Electrical)
P.W.Dept. Mumbai**

CURRENT SCHEDULE OF RATES 2017-2018

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STANDARDS AND SPECIFICATIONS

Current Schedule of Rates for the year 2017-2018 is prepared for short item specified in the CSR booklet. Detailed specification booklet is published for CSR items which should be strictly followed. In case of any discrepancy decision of Chief Engineer (Electrical) will be final.

1. All Electrical works shall be carried out as per:
 - a. Relevant standards set by Bureau of Indian Standards (BIS) / International Electrotechnical Commission (IEC).
 - b. Central Electricity Authority Regulations 2010 (Amended up to date)
 - c. National Electrical Code 2011
 - d. National Building Code 2016
 - e. Chapter 16 of PWD Handbook
 - f. Specification for electrical works 2008 approved by PWD (Electrical) (Amended up to date)

2. The material having ISI mark or **when ISI marked material is not available in market then** approved by Chief Engineer (Electrical), PWD, should be used for Government Works. While using the material on works, Site in-charge should check the validity and ISI mark approval of the makes used.

3. If necessary, the Engineer-In-Charge should get the material tested from ERDA, CPRI or Regional Test Labs from any State /Central Government approved NABL accredited laboratory for confirmation of its parameters as per relevant BIS /IEC.

4. At the end of measurements following certificate shall be recorded; **“The above work has been carried out as per specifications.”**

INSTRUCTIONS

1. As per circular no CEN/1091/CR/159/E2 dated 29/04/1991 of Public Department, the **concealed type** wiring shall not be adopted normally. For carrying out the concealed wiring in specific building, it should be considered as per architect drawing / provision in proposal/ as per requirement of user dept.
2. PVC conduit black in colour, should not be used in surface wiring in electrical installation.
3. Electrical layout for major works shall be finalized in consultation with Government Architect.
4. The quality of all electrical items to be used in electrical installations should be thoroughly checked before actual use on work and necessary record be maintained in Electrical Division / Sub Division
5. For conservation of electricity, energy efficient and energy saving devices shall be used.
6. If this CSR is used by other Government / semi Government Departments / Local bodies; it should be noted that this CSR is to be read with 'Detailed Specifications' given separately in 'Red Book' to maintain quality of works. It is recommended to get such works inspected by the PWD Engineer whose service is available as per PWD manual.
7. **As per Government Resolution No विमास-१०९८/प्र.क्र.२८/९८/शासनहमी/वित्त विभाग, मंत्रालय, मुंबई दि. १९ ऑगस्ट १९९८ if insurance document is not submitted by Agency the Amount worth to 1% of Tender Amount to be recovered from the 1st Bill.**
8. The rates of items for machinery / systems are inclusive of full comprehensive maintenance with guarantee for one year. If fully comprehensive maintenance period is more than one year to be executed then annual maintenance cost for the same shall be added in the estimate. However annual maintenance cost shall be withheld in advance through final bill or in the form of Bank Guarantee and to be released every after completion of AMC period of concerned year.

RATES OF ITEMS

- A. The rates in the schedule are inclusive of all taxes, cesses, insurance, overhead & transportation.
The rates in the schedule are inclusive of GST, Transportation, insurance, Labour cess and overhead charges.
- B. 1. The rates in the schedule are applicable to District Headquarters and **Municipal corporation areas**. (Excluding tribal).
2. For EI works at places other than mentioned in B1 and **falling in** Tribal Areas, increase CSR rates by **10% (Ten Percent)** and in Non Tribal areas by **5% (Five Percent)**
3. For EI works in Matheran, Mahabaleshwar, Panchgani, Pratapgad, Raigad Fort, Chikhaldara, Toranmal, Dharni, Bhamragarh, Sironcha, Allapalli and Aheri, increase CSR item rates by **20% (Twenty Percent)**. (Additional 5 % and 10% shall not be added As per Note at Sr. No B1)
4. For EI work in occupied Jails, increase CSR item rates by **15% (Fifteen percent)**. (Additional 5 % and 10% shall not be added as per Note at Sr. No B1)
- C. This schedule of rates comes into force from 6th September 2017.

SPECIAL-NOTE

For Price Variation Clause in B-1 and B-2 contracts, following percentage shall be adopted for Labour, Material and POL components as per the types of works

Type of Works	Labour Component (K1)	Material Component (K2)	POL Component (K3)
Internal EI	20%	78%	2%
Machinery:- Lifts, Air conditioning Plants, DG Sets, Pumps, Fire Fighting and Fire Alarm Systems, Sirens etc	20%	77%	3%
External EI:- Overhead Lines, Street/ Yard / Garden Lighting, Transformer Sub Station etc	20%	76%	4%

NOTE: - Where the work is of combined nature, tender shall include above respective percentage.

Chapter 1

WIRING (WG)

1.1 Concealing of Conduits	(WG-MA/CC)
1.2 PVC Flexible/Rigid Conduits/Casing-n-capping/Under Floor Trunking/Raceways and Box System	(WG-MA/CON)
1.3 Bunch of Wires	(WG-MA/BW)
1.4 Mains on GI Bearer Wire	(WG-MA/GB)
1.5 Mains in Metal Conduit	(WG-MA/MC)
1.6 Mains in PVC Conduit	(WG-MA/PC)
1.7 Wiring Accessories	
1.8 Modular switches and Accessories	
1.9 Point Wiring	(WG-PW/PW)
1.10 Telephone Wiring	(WG-TW/TW)
1.11 Telephone Accessories	(WG-TW/TA)
1.12 Computer Cabling	(WG-COC)
1.13 Networking Components	(WG- NWC)
1.14 Networking Accessories	(WG-NAS)
1.15 Dismantling	(WG-DM)

Chapter: 1 WIRING (WG)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>Mains (MA)</u>					
<u>1.1 Concealing of Conduits (WG-MA/CC)</u>					
1-1-1	Supplying & erecting ISI mark Rigid Steel conduit 16 SWG 20 mm dia. with necessary accessories in wall/floor with chiselling appropriately as per specification No: WG-MA/CC, para no. 1.2.3	m	123	45	168
1-1-2	Supplying & laying ISI mark Rigid Steel conduit 16 SWG - 20 mm. dia. with necessary accessories in RCC work/false ceiling/false flooring as per specification No: WG-MA/CC, para no. 1.2.3	m	116	45	161
1-1-3	Supplying & erecting ISI mark Rigid Steel conduit 16 SWG 25 mm dia. with necessary accessories in wall/floor with chiselling appropriately as per specification No: WG-MA/CC, para no. 1.2.3	m	171	45	216
1-1-4	Supplying & laying ISI mark Rigid Steel conduit 16 SWG - 25 mm. dia. with necessary accessories in RCC work/false ceiling/false flooring as per specification No: WG-MA/CC, para no. 1.2.3	m	160	45	205
1-1-5	Supplying & erecting ISI mark Rigid Steel conduit 16 SWG 32 mm dia. with necessary accessories in wall/floor with chiselling appropriately as per specification No: WG-MA/CC, para no. 1.2.3	m	208	60	268
1-1-6	Supplying & laying ISI mark Rigid Steel conduit 16 SWG - 32 mm. dia. with necessary accessories in RCC work/false ceiling/false flooring as per specification No: WG-MA/CC, para no. 1.2.3	m	200	45	245
1-1-7	Supplying & erecting I.S.I. mark Rigid P.V.C. conduit 20 mm. dia. with necessary accessories in wall/floor with chiselling appropriately as per specification No: WG-MA/CC, para no. 1.2.1	m	66	50	116
1-1-8	Supplying & laying Rigid PVC conduit 20 mm Dia. with necessary accessories in RCC work/false ceiling/false flooring as per specification No. WG-MA/CC, para no. 1.2.1	m	62	33	95
1-1-9	Supplying & erecting I.S.I. mark Rigid P.V.C. conduit 25 mm. dia. with necessary accessories in wall/floor with chiselling appropriately as per specification No: WG-MA/CC, para no. 1.2.1	m	82	50	132

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-1-10	Supplying & laying Rigid PVC conduit 25 mm Dia with necessary accessories in RCC work/false ceiling/false flooring as per specification No. WG-MA/CC, para no. 1.2.1	m	77	30	107
1-1-11	Supplying & erecting I.S.I. mark Rigid P.V.C. conduit 32 mm. dia. with necessary accessories in wall/floor with chiselling appropriately as per specification No: WG-MA/CC, para no. 1.2.1	m	111	58	169
1-1-12	Supplying & laying Rigid PVC conduit 16 SWG 32 mm Dia. with necessary accessories in RCC work/false ceiling/false flooring as per specification No. WG-MA/CC, para no. 1.2.1	m	106	36	142
1-1-13	Concealing of provided ISI mark G.I. pipe/H.G. screwed conduit/PVC pipe in wall/floor/false ceiling complete as per specification No: WG-PW/CW	m	21	45	66
Note:-	:- Add Rs 5/- per meter for erecting conduit on stone wall				
<u>1.2 PVC Flexible/Rigid Conduits/Casing-n-capping/Under Floor Trunking/Raceways and Box System (WG-MA/CON)</u>					
1-2-1	Deleted				
1-2-2	Supplying and erecting UPVC reinforced flexible conduit 20 mm in dia. conforming to I.S. and approved make with required number of couplings, PVC bushes, check nuts etc. complete.	m	76	13	89
1-2-3	Supplying and erecting UPVC reinforced flexible conduit 25 mm in dia. conforming to I.S. and approved make with required number of couplings, PVC bushes, check nuts etc. complete.	m	88	13	101
1-2-4	Supplying and erecting UPVC reinforced flexible conduit 31/32 mm in dia. conforming to I.S. and approved make with required number of couplings, PVC bushes, check nuts etc. complete.	m	106	13	119
1-2-5	Supplying and erecting UPVC reinforced flexible conduit 38/40 mm in dia. conforming to I.S. and approved make with required number of couplings, PVC bushes, check nuts etc. complete.	m	127	30	157
1-2-6	Supplying and erecting UPVC reinforced flexible conduit 50 mm in dia. conforming to I.S. and approved make with required number of couplings, PVC bushes, check nuts etc. complete.	m	164	30	194

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-2-7	Supplying and erecting rigid PVC conduit 20 mm dia. with PVC accessories on wall / ceiling as per specification No: WG-MA/CON, para no. 1.1.1	m	53	15	68
1-2-8	Supplying and erecting rigid PVC conduit 25 mm dia. with PVC accessories on wall /ceiling as per specification No: WG-MA/CON, para no. 1.1.1	m	73	15	88
1-2-9	Supplying and erecting rigid PVC conduit 32 mm dia. with PVC accessories on wall / ceiling as per specification No: WG-MA/CON, para no. 1.1.1	m	110	24	134
1-2-10	Supplying and erecting PVC trunking (PVC casing-n-capping) of size 20 mm with accessories on wall/ceiling as per specification No: WG-MA/CON, para no. 1.1.2	m	28	12	40
1-2-11	Supplying and erecting PVC trunking (PVC casing-n-capping) of size 25 mm with accessories on wall/ceiling as per specification No: WG-MA/CON, para no. 1.1.2	m	31	12	43
1-2-12	Supplying and erecting PVC trunking (PVC casing-n-capping) of size 32 mm with accessories on wall/ceiling as per specification No: WG-MA/CON, para no. 1.1.2	m	35	15	50
1-2-13	Supplying and erecting PVC trunking (PVC casing-n-capping) of size 40 mm with accessories on wall/ceiling as per specification No: WG-MA/CON, para no. 1.1.2	m	59	15	74
1-2-14	Supplying and erecting PVC box trunking of size 50x16/20 mm. with accessories on wall/ceiling as per specification No: WG-MA/BOX, para no. 1.1.2	m	71	24	95
1-2-15	Supplying and erecting PVC box trunking of size 50x50 mm. with accessories on wall/ceiling as per specification No: WG-MA/BOX, para no. 1.1.2	m	129	30	159
1-2-16	Supplying and erecting PVC box trunking of size 75x50 mm. with accessories on wall/ceiling as per specification No: WG-MA/BOX, para no. 1.1.2	m	320	30	350
1-2-17	Supplying and erecting PVC box trunking of size 75x75 mm. with accessories on wall/ceiling as per specification No: WG-MA/BOX, para no. 1.1.2	m	414	30	444
1-2-18	Supplying and erecting PVC box trunking of size 100x50 mm. with accessories on wall/ceiling as per specification No: WG-MA/BOX para no. 1.1.2	m	509	30	539
1-2-19	Supplying and erecting PVC slotted box trunking of size 25x25 mm. with accessories on wall/ceiling as per specification No: WG-MA/SLBOX, para no. 1.1.2	m	51	15	66

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-2-20	Supplying and erecting PVC slotted box trunking of size 45x30 mm. with accessories on wall/ceiling as per specification No: WG-MA/SLBOX, para no. 1.1.2	m	78	24	102
1-2-21	Supplying and erecting PVC slotted box trunking of size 60x45 mm. with accessories on wall/ceiling as per specification No: WG-MA/SLBOX, para no. 1.1.2	m	119	24	143
1-2-22	Supplying and erecting PVC slotted box trunking of size 75x75 mm. with accessories on wall/ceiling as per specification No: WG-MA/SLBOX, para no. 1.1.2	m	206	30	236
1-2-23	Supplying and erecting PVC slotted box trunking of size 100x100 mm. with accessories on wall/ceiling as per specification No: WG-MA/SLBOX, para no. 1.1.2	m	417	30	447
1-2-24	Supplying & erecting UPVC gland/ adaptor suitable for 20 mm dia pvc pipe.	Each	10	7	17
1-2-25	Supplying & erecting UPVC gland/ adaptor suitable for 25 mm dia pvc pipe.	Each	13	7	20
1-2-26	Supplying & erecting UPVC gland/ adaptor suitable for 31/32 mm dia pvc pipe.	Each	18	7	25
1-2-27	Supplying & erecting UPVC gland/ adaptor suitable for 40/42 mm dia pvc pipe.	Each	20	7	27
1-2-28	Supplying & erecting UPVC gland/ adaptor suitable for 50 mm dia pvc pipe.	Each	23	7	30
1-2-29	Supplying & erecting GI flexible Conduit 25 mm dia. conforming to I.S. and approved make with required number of couplings, bushes, check nuts etc. complete	m	31	15	46
1-2-30	Supplying & erecting GI flexible Conduit 40 mm dia. conforming to I.S. and approved make with required number of couplings, bushes, check nuts etc. complete	m	51	15	66
1-2-31	Supplying & erecting GI flexible Conduit 50 mm dia. conforming to I.S. and approved make with required number of couplings, bushes, check nuts etc. complete	m	72	15	87
1-2-32	Supplying and erecting PVC ROHS complied Non flame propagating under floor ducts/raceways of 60mm Width x 25 mm depth x 3000 mm Length including the connectors and the clamps at required intervals complete. The ducts shall be in trapezoidal shape tested for 750 N point load suitable for inscreed application. as per specification no. WG-MA/UFD	m	299	30	329

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-2-33	Supplying and erecting PVC ROHS complied Non flame propagating under floor ducts/raceways of 90mm Width x 35 mm depth x 3000 mm Length including the connectors and the clamps at required intervals. The ducts shall be in trapezoidal shape tested for 750 N point load suitable for inscreed application as per specification no. WG-MA/UFD.	m	405	21	426
1-2-34	Supplying and erecting underfloor junction box of size 150mm x 150mm x 55 mm with flush finish powder coated appearance having knock outs for UPVC duct entry of size 60x25 mm width and 95x35 mm ducts complete as per specification no. WG-MA/UFB	m	4476	21	4497
1-2-35	Supplying and erecting of underfloor junction box of size 200mm x 200mm x 55 mm. with flush finish powder coated appearance having knock outs for UPVC duct entry of size 60x25 mm and 95x35 mm ducts complete as per specification no. WG-MA/UFB .	m	7029	21	7050
1-2-36	Supplying and erecting underfloor junction box of size 300mm x300mm x55 mm. with flush finish powder coated appearance having knock outs for UPVC duct entry of size 60x25 mm and 95x35 mm ducts complete as per specification no. WG-MA/UFB .	m	9038	21	9059
Note:-	1. Add Rs 3/- per meter for erecting conduit on stone wall 2. Item No. 1-2-7 to 1-2-9 may be used for erection/laying below false flooring/above false ceiling/behind wall panelling. 3.ROHS: Restriction of Hazardous Substance				
	<u>1.3 Bunch of Wires (WG-MA/BW)</u>				
1-3-1	Deleted				
1-3-2	Deleted				
1-3-3	Supplying & erecting mains with 2x1.5 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	30	12	42
1-3-4	Supplying & erecting mains with 2x1.5 sq.mm F.R.L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	32	12	44
1-3-5	Supplying & erecting mains with 2x2.5 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places. as per specification No: WG-MA/BW	m	48	15	63

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-3-6	Supplying & erecting mains with 2x2.5 sq.mm F.R.L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places. as per specification No: WG-MA/BW	m	51	15	66
1-3-7	Supplying & erecting mains with 2x4 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places. as per specification No: WG-MA/BW	m	70	15	85
1-3-8	Supplying & erecting mains with 2x4 sq.mm F.R.L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places. as per specification No: WG-MA/BW	m	74	15	89
1-3-9	Supplying & erecting mains with 2x6 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	105	15	120
1-3-10	Supplying & erecting mains with 2x6 sq.mm F.R L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places. as per specification No: WG-MA/BW	m	110	15	125
1-3-11	Supplying & erecting mains with 2x10 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	182	18	200
1-3-12	Supplying & erecting mains with 2x10 sq.mm F.R.L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	194	18	212
1-3-13	Supplying & erecting mains with 3x2.5 Sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	73	15	88
1-3-14	Supplying & erecting mains with 3x2.5 sq.mm F.R. L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	75	15	90
1-3-15	Supplying & erecting mains with 3x4 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	106	18	124

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-3-16	Supplying & erecting mains with 3x4 sq.mm F.R L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	111	18	129
1-3-17	Supplying & erecting mains with 3x6 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	156	18	174
1-3-18	Supplying & erecting mains with 3x6 sq.mm F.R.L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	166	18	184
1-3-19	Supplying & erecting mains with 3x10 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	273	24	297
1-3-20	Supplying & erecting mains with 3x10 sq.mm F.R.L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	289	24	313
1-3-21	Supplying & erecting mains with 4x16 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	582	36	618
1-3-22	Supplying & erecting mains with 4x16 sq.mm F.R L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	628	36	664
1-3-23	Supplying & erecting mains with 4x25 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	983	45	1028
1-3-24	Supplying & erecting mains with 4x25 sq.mm F.R.L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	1080	45	1125
1-3-25	Supplying & erecting mains with 4x35 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	1352	51	1403

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-3-26	Supplying & erecting mains with 4x35 sq.mm F.R L.S copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	1486	51	1537
1-3-27	Supplying & erecting mains with 4x50 sq.mm FR copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places as per specification No: WG-MA/BW	m	1943	60	2003
1-3-28	Supplying PVC insulated PVC round sheathed 1 sq.mm (32 no. x 0.20mm dia.) 3 core flexible multi stranded copper Industrial cable for voltage grade up to 1.1 kV	m	32	12	44
1-3-29	Supplying PVC insulated PVC round sheathed 1.5 sq.mm (30 no. x 0.25 mm dia.) 3 core flexible multi stranded copper Industrial cable for voltage grade up to 1.1 kV	m	44	12	56
1-3-30	Supplying PVC insulated PVC round sheathed 2.5 sq.mm (50 no. x 0.25 mm dia.) 3 core flexible multi stranded copper Industrial cable for voltage grade up to 1.1 kV	m	69	12	81
1-3-31	Supplying PVC insulated PVC round sheathed 4 sq.mm (56 no. x 0.30 mm dia.) 3 core flexible multi stranded copper Industrial cable for voltage grade up to 1.1 kV	m	109	12	121
Note:-	<p>1) Double the rate of two wire bunch for calculating rate of four wire bunch up to 10 sq mm</p> <p>2) Continuous running earth wire should be provided of min. 1.5 sq. mm. up to phase wire of 2.5 sq. mm. And further earth wire of half of the size of phase wire is to be used only for light & power load .</p> <p>3) Rates for the earth wire shall be calculated as one half rate of mains of bunch of two wire and earth wire should be with green colour PVC.</p> <p>4) For all types of wiring stranded copper wires shall be invariably used.</p> <p>5) For FRLSH wire / cable add 2% Over FRLS Wire/Cable overall rate</p>				
	<u>1.4 Mains on GI Bare Wire (WG-MA/GB)</u>				
1-4-1	Supplying and erecting mains with ISI mark WP 2 x 2.5 sq. mm. 1100 V. Grade aluminium PVC insulated and PVC sheathed wires on G.I. bearer wire No. 8 SWG complete erected with required size of porcelain reel insulators and 16 SWG G.I. binding wire.	m	33	30	63

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-4-2	Supplying and erecting mains with ISI mark WP 2 x 4 sq. mm. 1100 V. Grade aluminium PVC insulated and PVC sheathed wires on G.I. bearer wire No. 8 SWG complete erected with required size of porcelain reel insulators and 16 SWG G.I. binding wire.	m	43	30	73
1-4-3	Supplying and erecting mains with ISI mark WP 2 x 6 sq. mm. 1100 V. Grade aluminium PVC insulated and PVC sheathed wires on G.I. bearer wire No. 8 SWG complete erected with required size of porcelain reel insulators and 16 SWG G.I. binding wire.	m	53	30	83
1-4-4	Supplying and erecting mains with ISI mark WP 3 x 4 sq. mm. 1100 V. Grade aluminium PVC insulated and PVC sheathed wires on G.I. bearer wire No. 8 SWG complete erected with required size of porcelain reel insulators and 16 SWG G.I. binding wire.	m	59	45	104
1-4-5	Supplying and erecting mains with ISI mark WP 3 x 6 sq. mm. 1100 V. Grade aluminium PVC insulated and PVC sheathed wires on G.I. bearer wire No. 8 SWG complete erected with required size of porcelain reel insulators and 16 SWG G.I. binding wire.	m	74	45	119
1-4-6	Supplying and erecting mains with ISI mark WP 4 x 4 sq. mm. 1100 V. Grade aluminium PVC insulated and PVC sheathed wires on G.I. bearer wire No. 8 SWG complete erected with required size of porcelain reel insulators and 16 SWG G.I. binding wire.	m	75	45	120
1-4-7	Supplying and erecting mains with ISI mark WP 4 x 6 sq. mm. 1100 V. Grade aluminium PVC insulated and PVC sheathed wires on G.I. bearer wire No. 8 SWG complete erected with required size of porcelain reel insulators and 16 SWG G.I. binding wire.	m	95	45	140
<u>1.5 Mains in Metal Conduit (WG-MA/MC)</u>					
1-5-1	Supplying & erecting mains with 2x1.5 sq.mm. F.R. copper wire, in 16gauge 20 mm dia. Rigid Steel conduit with continuous GI earth wire of 2.5 sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	145	45	190
1-5-2	Supplying & erecting mains with 2x1.5 sq.mm. F.R.LS copper wire, in 16gauge 20 mm dia. Rigid Steel conduit with continuous GI earth wire of 2.5 sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	146	59	205
1-5-3	Supplying & erecting mains with 2x2.5 sq.mm. F.R. copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 2.5sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	161	45	206

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-5-4	Supplying & erecting mains with 2x2.5 sq.mm. F.R.L.S copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 2.5sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	164	45	209
1-5-5	Supplying & erecting mains with 2x4 sq.mm.F.R copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 2.5sq.mm.as per specification No: WG-MA/MC, para no. 1.4.3	m	183	54	237
1-5-6	Supplying & erecting mains with 2x4 sq.mm.F.R.L.S. copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 2.5 sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	185	54	239
1-5-7	Supplying & erecting mains with 2x6 sq.mm. F.R. copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 4 sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	215	54	269
1-5-8	Supplying & erecting mains with 2x6 sq.mm. F.R.L.S copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 4 sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	219	54	273
1-5-9	Supplying & erecting mains with 2x10 sq.mm.F.R copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 6 sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	287	60	347
1-5-10	Supplying & erecting mains with 2x10 sq.mm.F.R.L.S copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 6sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	299	60	359
1-5-11	Supplying & erecting mains with 3x4 sq.mm. F.R.copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 2.5sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	216	60	276
1-5-12	Supplying & erecting mains with 3x4 sq.mm. F.R.L.S copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 2.5sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	221	60	281
1-5-13	Supplying & erecting mains with 3x6 sq.mm. F.R.copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 4sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	264	60	324

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-5-14	Supplying & erecting mains with 3x6 sq.mm. F.R.L.S copper wire, in 16gauge 20 mm dia. Rigid Steel conduit , with continuous GI earth wire of 4sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	273	60	333
1-5-15	Supplying & erecting mains with 3x10 sq.mm.F.R copper wire, in 16gauge 25 mm dia. Rigid Steel conduit , with continuous GI earth wire of 6sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	418	60	478
1-5-16	Supplying & erecting mains with 3x10 sq.mm.F.R.L.S copper wire, in 16gauge 25 mm dia. Rigid Steel conduit , with continuous GI earth wire of 6sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	433	60	493
1-5-17	Supplying & erecting mains with 4x4 sq.mm. F.R copper wire, in 16gauge 25 mm dia. Rigid Steel conduit , with continuous GI earth wire of 2.5sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	295	66	361
1-5-18	Supplying & erecting mains with 4x4 sq.mm. F.R.L.S copper wire, in 16gauge 25 mm dia. Rigid Steel conduit , with continuous GI earth wire of 2.5 sq.mm as per specification No: WG-MA/MC, para no. 1.4.3	m	298	66	364
1-5-19	Supplying & erecting mains with 4x6 sq.mm.F.R copper wire, in 16gauge 25 mm dia.Rigid Steel conduit , with continuous GI earth wire of 4sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	358	66	424
1-5-20	Supplying & erecting mains with 4x6 sq.mm.F.R L.S copper wire, in 16gauge 25 mm dia. Rigid Steel conduit , with continuous GI earth wire of 4sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	366	66	432
1-5-21	Supplying & erecting mains with 4x10 sq.mm.F.R copper wire, in 16gauge 32 mm dia. Rigid Steel conduit , with continuous GI earth wire of 6sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	543	66	609
1-5-22	Supplying & erecting mains with 4x10 sq.mm.F.R.L.S copper wire, in 16gauge 32 mm dia. Rigid Steel conduit , with continuous GI earth wire of 6sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	567	66	633
1-5-23	Supplying & erecting mains with 6x6 sq.mm.F.R copper wire, in 16gauge 32 mm dia. Rigid Steel conduit , with continuous GI earth wire of 4sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	496	72	568

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-5-24	Supplying & erecting mains with 6x6 sq.mm.F.R.L.S copper wire, in 16gauge 32 mm dia. Rigid Steel conduit , with continuous GI earth wire of 4sq.mm. as per specification No: WG-MA/MC, para no. 1.4.3	m	509	72	581
Note:-	<p>1) Add Rs 3/- per meter for erecting conduit on stone wall</p> <p>2) In case of G.I. Earth wire, appropriate guage, equivalent to the sq. mm. size may be used.</p> <p>3) For FRLSH wire / cable add 2% Over FRLS Wire/Cable overall rate</p>				
	<u>1.6 Mains in PVC Conduit (WG-MA/PC)</u>				
1-6-1	Supplying & erecting mains 2x1.5 sq.mm.and earth wire 1.5 sq.mm FR PVC copper wire, in rigid PVC conduit min. 20mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	92	36	128
1-6-2	Supplying & erecting mains with 2x1.5 sq.mm.and earth wire 1.5 sq.mm FRLS PVC copper wire, in rigid PVC conduit min. 20mm dia as per specification No: WG-MA/PC, para no. 1.4.1	m	94	36	130
1-6-3	Supplying & erecting mains with 2x2.5 sq.mm.and earth wire 1.5 sq.mm FR PVC copper wire, in rigid PVC conduit min. 20mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	110	36	146
1-6-4	Supplying & erecting mains with 2x2.5 sq.mm.and earth wire 1.5 sq.mm FRLS PVC copper wire in rigid PVC conduit min. 20mm dia . as per specification No: WG-MA/PC, para no. 1.4.1	m	117	36	153
1-6-5	Supplying & erecting mains with 2x4 sq.mm.and earth wire 2.5 sq.mm FR PVC copper wire in rigid PVC conduit min .20mm dia ,as per specification No: WG-MA/PC, para no. 1.4.1	m	134	42	176
1-6-6	Supplying & erecting mains with 2x4 sq.mm.and earth wire 2.5 sq.mm FRLS PVC copper wire in rigid PVC conduit min.20mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	142	42	184
1-6-7	Supplying & erecting mains with 2x6 sq.mm.and earth wire 4 sq.mm FR PVC copper wire, in rigid PVC conduit min.20mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	181	42	223

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-6-8	Supplying & erecting mains with 2x6 sq.mm.and earth wire 4 sq.mm FRLS PVC copper wire, in rigid PVC conduit min.20mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	192	42	234
1-6-9	Supplying & erecting mains with 2x10 sq.mm.and earth wire 6 sqmm FR PVC copper wire, in rigid PVC conduit min. 25 mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	283	48	331
1-6-10	Supplying & erecting mains with 2x10 sq.mm.and earth wire 6 sq.mm FRLS PVC copper wire, in rigid PVC conduit min. 25mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	298	48	346
1-6-11	Supplying & erecting mains with 3x4 sq.mm.and earth wire 2.5 sq.mm FR PVC copper wire, in rigid PVC conduit min.20mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	176	48	224
1-6-12	Supplying & erecting mains with 3x4 sq.mm.and earth wire 2.5 sq.mm FRLS PVC copper wire, in rigid PVC conduit min.20mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	187	48	235
1-6-13	Supplying & erecting mains with 3x6 sq.mm.and earth wire 4 sq.mm FR PVC copper wire, in rigid PVC conduit min. 25mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	241	48	289
1-6-14	Supplying & erecting mains with 3x6 sq.mm.and earth wire 4 sq.mm FRLS PVC copper wire, in rigid PVC conduit min. 25 mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	254	48	302
1-6-15	Supplying & erecting mains with 3x10 sq.mm.and earth wire 6 sq.mm FR PVC copper wire, in rigid PVC conduit min. 25mm dia . as per specification No: WG-MA/PC, para no. 1.4.1	m	377	48	425
1-6-16	Supplying & erecting mains with 3x10 sq.mm.and earth wire 6 sq.mm FRLS PVC copper wire, in rigid PVC conduit min. 25mm dia ,as per specification No: WG-MA/PC, para no. 1.4.1	m	413	48	461
1-6-17	Supplying & erecting mains with 4x4 sq.mm and earth wire 2.5 sq.mm FR PVC copper wire, in rigid PVC conduit min. 25mm dia , as per specification No: WG-MA/PC, para no. 1.4.1	m	212	54	266

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-6-18	Supplying & erecting mains with 4x4 sq.mm.and earth wire 2.5 sq.mm FRLS PVC copper wire, in rigid PVC conduit 25mm dia, as per specification No: WG-MA/PC, para no. 1.4.1	m	227	54	281
1-6-19	Supplying & erecting mains with 4x6 sq.mm.and earth wire 4 sq.mm FR PVC copper wire, in rigid PVC conduit 25mm dia, as per specification No: WG-MA/PC, para no. 1.4.1	m	295	54	349
1-6-20	Supplying & erecting mains with 4x6 sq.mm.and earth wire 4 sq.mm FRLS PVC copper wire, in rigid PVC conduit 25mm dia, as per specification No: WG-MA/PC, para no. 1.4.1	m	321	54	375
1-6-21	Supplying & erecting mains with 4x10 sq.mm.and earth wire 6 sq.mm FR PVC copper wire, in rigid PVC conduit 32mm dia, as per specification No: WG-MA/PC, para no. 1.4.1	m	500	54	554
1-6-22	Supplying & erecting mains with 4x10 sq.mm.and earth wire 6 sq.mm FRLS PVC copper wire, in rigid PVC conduit 32mm dia, as per specification No: WG-MA/PC, para no. 1.4.1	m	549	54	603
1-6-23	Supplying & erecting mains with 6x6 sq.mm.and earth wire 4 sq.mm FR PVC copper wire, in rigid PVC conduit 32mm dia, as per specification No: WG-MA/PC, para no. 1.4.1	m	433	60	493
1-6-24	Supplying & erecting mains with 6x6 sq.mm.and earth wire 4 sq.mm FRLS PVC copper wire, in rigid PVC conduit 32mm dia, as per specification No: WG-MA/PC, para no. 1.4.1	m	465	60	525
Note:-	1) Add Rs. 3/- per meter for erecting mains in PVC/HG conduit on stone wall. 2) For FRLSH wire / cable add 2% Over FRLS Wire/Cable overall rate				

Accessories

1.7 Wiring Accessories

1-7-1	Supplying and erecting shockproof 6A ISI mark porcelain base T.Switch / bell push erected on Filled polypropylene ISI marked (IS:14772-2000) board or polished double wooden block / 3 mm thick hylam sheet / 4mm thick plywood pasted with 1.5 mm thick Laminate with S M screws and duly connected.	Each	37	15	52
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Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-7-2	Supplying and erecting One/Two way piano type ISI mark switch 6A./bell push erected on Filled polypropylene ISI marked (IS:14772-2000) board or double polished wooden board/ folded or screwed board with top of either wooden/ 3 mm thick hylam sheet/ 4mm thick plywood pasted with 1.5 mm thick Laminate with S M screws and duly connected.	Each	21	15	36
1-7-3	Supplying and erecting ISI mark shockproof T. switch 16 A porcelain base surface mounting type / flush mounting type erected on Filled polypropylene ISI marked (IS:14772-2000) board or polished thick varnished double wooden block/ folded or screwed board with top of either wooden/ 3 mm thick hylam sheet/ 4mm thick plywood pasted with 1.5 mm thick Laminate with S M screws and duly connected.	Each	83	15	98
1-7-4	Supplying and erecting ISI mark shockproof piano type switch 250 V 16 A , erected on Filled polypropylene ISI marked (IS:14772-2000) board or polished double wooden/ folded or screwed board with top of either wooden/ 3 mm thick hylam sheet/ 4mm thick plywood pasted with 1.5 mm thick Laminate with S M screws and duly connected.	Each	71	15	86
1-7-5	Supplying and erecting ISI mark shockproof 3 pin plug socket 6A with porcelain base / flush type erected on Filled polypropylene ISI marked (IS:14772-2000) board or polished thick varnished double wooden block / folded or screwed board with top of either wooden / 3 mm thick hylam sheet/ 4mm thick plywood pasted with 1.5 mm thick Laminate with S M screws and duly connected.	Each	31	10	41
1-7-6	Supplying and erecting ISI mark shockproof 3 pin plug socket 16A with porcelain base/ flush type erected on Filled polypropylene ISI marked (IS:14772-2000) board or polished thick varnished double wooden block / folded or screwed board with top of either wooden/3 mm thick hylam sheet/ 4mm thick plywood pasted with 1.5 mm thick Laminate with S M screws and duly connected.	Each	43	10	53
1-7-7	Supplying and erecting ISI mark Ceiling rose / Batten holder / Slanting holder / hanging cord switch / hanging bell push / pendent holder bakelite base 6A. erected on Filled polypropylene ISI marked (IS:14772-2000) board or polished double wooden block/ ISI mark PVC junction box.	Each	20	15	35

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
Note:-	Reduce rate by Rs.5/-for erecting accessories on provided board / junction box.				
1-7-8	Supplying adaptor for lamp holder 230 V.A.C. supply.	Each	19	15	34
1-7-9	Supplying and erecting ISI mark recess type 3 pin plug socket 6A with piano switch 6A erected on M.S Box made of 16 SWG sheet duly painted and covered with bakelite hylam sheet of 3 mm thickness connected with earth terminals and leads duly concealed	Each	77	14	91
1-7-10	Supplying and erecting ISI marked recess type 3 pin plug socket 6A with piano switch 6 A combined unit erected on polished double wooden block/ folded or screwed board with top of either wooden or plywood pasted with sunmica and with connecting leads	Each	70	14	84
1-7-11	Supplying and erecting ISI mark flush shock proof plug socket 6 pin 6A and 16A with switch 16A combined unit erected in recess in 16 guage M.S sheet box duly painted and connected with earth terminal and leads	Each	107	15	122
1-7-12	Supplying and erecting ISI mark flush type shockproof plug socket 6 pin 6A and 16A with switch 16A combined unit erected on Filled polypropylene ISI marked (IS:14772-2000) board or double wooden block / 3mm thick hylam sheet / 4mm thickplywood pasted with 1.5 mm thick sunmica with S M screws and duly connected.	Each	120	17	137
1-7-13	Supplying and erecting flush type shockproof plug socket 6A.& 16A (6 pin) with 16A switch combined with indicator lamp and fuse with gang box on wooden board.	Each	169	30	199
1-7-14	Supplying and erecting ISI mark shockproof bell push on Filled polypropylene ISI marked (IS:14772-2000) board or wooden block covered with sunmica with 2 Core (TRS type) PVC insulated copper wire of size 0.5 sq mm 5 m length connected to the point.	Each	25	15	40
1-7-15	Supplying and erecting ISI marked recess type 3 pin plug socket 6A with piano switch 6A combined unit erected on M.S box made of 16 guage sheet and covered with sunmica and with connecting leads	Each	84	30	114
1-7-16	Deleted				
1-7-17	Supplying 6 amp. 3 pin plug Top bakelite type of 230 V.A.C. supply.	Each	44	15	59
1-7-18	Supplying 16 amp. 3 pin plug Top bakelite type of 230 V.A.C. supply.	Each	60	15	75

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>1.8 Modular switches and Accessories</u>					
1-8-1	Supplying and erecting modular type switch 6A / 10A ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	72	17	89
1-8-2	Supplying and erecting modular type switch 16A ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	108	17	125
1-8-3	Supplying and erecting modular type bell-push 6A / 10A ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	98	17	115
1-8-4	Supplying and erecting modular type bell-push with indicator 2 modules 6A / 10A ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	123	17	140
1-8-5	Supplying and erecting modular type Two way switch 6A / 10A (2 Module) ISI mark, approved make, duly erected on provided plate and box with wiring connections complete.	Each	96	17	113
1-8-6	Supplying and erecting modular type switch 16 / 20 A with indicator , ISI mark, approved make duly erected on provided plate and box with wiring connections complete.	Each	138	17	155
1-8-7	Supplying and erecting modular type switch one way 16 / 20 A , ISI mark, approved make duly erected on provided plate and box with wiring connections complete with neon indicator .	Each	129	17	146
1-8-8	Supplying and erecting modular type D.P. switch 32A with indicator ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	186	17	203
1-8-9	Supplying and erecting modular type 32A, DP key tag switch with KEY TAG ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	360	17	377
1-8-10	Supplying and erecting modular type 3 pin 6A multi socket with safety shutter ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	99	17	116
1-8-11	Supplying and erecting modular type 3 pin 6 / 16A multi socket with safety shutter ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	162	17	179
1-8-12	Supplying and erecting modular type indicator lamp ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	53	17	70

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-8-13	Supplying and erecting modular type 6 / 16A fuse unit ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	86	17	103
1-8-14	Supplying and erecting modular type T.V. socket single outlet ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	79	17	96
1-8-15	Supplying and erecting modular type telephone socket one gang with safety shutter ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	78	17	95
1-8-16	Supplying and erecting modular type telephone socket two gang with safety shutter ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	100	17	117
1-8-17	Supplying and erecting modular type computer Jack RJ 45 with safety shutter ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	103	17	120
1-8-18	Supplying and erecting modular type bell indicator ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	152	17	169
1-8-19	Supplying and erecting modular type buzzer 220 / 250V ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	98	17	115
1-8-20	Supplying and erecting modular type electronic dimmer 400 / 450W one module ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	236	21	257
1-8-21	Supplying and erecting modular type electronic dimmer 600/650W two module ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	330	21	351
1-8-22	Supplying and erecting modular type electronic dimmer 1000W two module ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	583	21	604
1-8-23	Supplying and erecting modular type electronic step regulator for fan two module ISI mark approved make duly erected on provided plate and box with wiring connections complete. Note: Add Rs 60/- provision of additional two modules for box and double plate	Each	389	21	410
1-8-24	Deleted				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-8-25	Supplying and erecting modular type blanking plate one module ISI mark approved make duly erected on provided plate & box.	Each	18	3	21
1-8-26	Supplying and erecting modular type blanking plate two module ISI mark approved make duly erected on provided plate & box.	Each	23	3	26
1-8-27	Supplying and erecting PVC Surface modular switch box with double mounting plate for 1 module complete duly erected in an approved manner.	Each	116	24	140
1-8-28	Supplying and erecting PVC Surface modular switch box with double mounting plate for 2 module duly erected in an approved manner.	Each	116	24	140
1-8-29	Supplying and erecting PVC Surface modular switch box with double mounting plate for 3 module duly erected in an approved manner.	Each	140	24	164
1-8-30	Supplying and erecting PVC Surface modular switch box with double mounting plate for 4 module duly erected in an approved manner.	Each	167	24	191
1-8-31	Supplying and erecting PVC Surface modular switch box with double mounting plate for 6 module duly erected in an approved manner.	Each	231	24	255
1-8-32	Supplying and erecting PVC Surface modular switch box with double mounting & front plate for 8 module complete duly connected.	Each	297	24	321
1-8-33	Supplying and erecting PVC Surface modular switch box with double mounting plate for 12 module duly erected in an approved manner.	Each	383	33	416
1-8-34	Supplying and erecting PVC Surface modular switch box with double mounting plate for 16 / 18 module duly erected in an approved manner.	Each	424	33	457
1-8-35	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 1 module duly erected flush to wall with required chiseling and finishing with cement mortar / POP as per required to match the background in an approved manner.	Each	149	90	239
1-8-36	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 2 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background in an approved manner.	Each	149	90	239

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-8-37	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 3 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background in an approved manner.	Each	183	90	273
1-8-38	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 4 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background in an approved manner.	Each	216	90	306
1-8-39	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 6 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background in an approved manner.	Each	305	105	410
1-8-40	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 8 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background in an approved manner.	Each	378	105	483
1-8-41	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 12 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background in an approved manner.	Each	415	120	535
1-8-42	Supplying and erecting unbreakable concealed type modular switch box with double mounting plate for 16 / 18 module duly erected flush to wall with required chiselling and finishing with cement mortar / POP as per required to match the background in an approved manner.	Each	465	120	585
1-8-43	Supplying and erecting White Footlight with 4 modules concealed modular box and lamp holder with cover complete erected on wall /flush to wall with necessary chiselling in wall and finishing with cement and mortar / PoP as per required and duly connected in an approved manner.	Each	373	90	463
1-8-44	Supplying and erecting White Footlight with 8 modules concealed modular box and lamp holder with cover complete erected on wall /flush to wall with necessary chiselling in wall and finishing with cement and mortar / PoP as per required and duly connected in an approved manner.	Each	459	105	564

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-8-45	Supplying and erecting 16 / 20 / 25 A starter (modular range) 2 module for AC unit on provided box complete & duly concealed with necessary material and connected.	Each	353	17	370
1-8-46	Supplying and erecting 6 to 32 A SPMCB suitable to fix in 1 module of modular switch in provided box complete & duly concealed with necessary material and connected.	Each	178	17	195
1-8-47	Supplying and erecting 16 to 32 A DPMCB suitable to fix in 2 module of modular switch in provided box complete & duly concealed with necessary material and connected.	Each	228	17	245
1-8-48	Supplying and erecting PVC Surface modular double mounting plate 1 module complete duly erected in an approved manner.	Each	58	15	73
1-8-49	Supplying and erecting PVC Surface modular double mounting plate 2 module complete duly erected in an approved manner.	Each	58	15	73
1-8-50	Supplying and erecting PVC Surface modular double mounting plate 3 module complete duly erected in an approved manner.	Each	66	15	81
1-8-51	Supplying and erecting PVC Surface modular double mounting plate 4 module complete duly erected in an approved manner.	Each	73	15	88
1-8-52	Supplying and erecting PVC Surface modular double mounting plate 6 module complete duly erected in an approved manner.	Each	121	15	136
1-8-53	Supplying and erecting PVC Surface modular double mounting plate 8 module complete duly erected in an approved manner.	Each	144	15	159
1-8-54	Supplying and erecting PVC Surface modular double mounting plate 12 module complete duly erected in an approved manner.	Each	187	17	204
1-8-55	Supplying and erecting PVC Surface modular double mounting plate 16/18 module complete duly erected in an approved manner.	Each	212	17	229
1-8-56	Supplying and erecting Modular type 5 pin socket with safety shutters 3 module socket 6A. 240V AC supply, ISI approved and marked make duly erected on provided plate and box with wiring connections complete duly erected in approved manner.	Each	158	30	188
1-8-57	Supplying and erecting Modular safety power strip with one modular switch 16A and three sockets each 13A combination with overload and surge protection unit on double mounting plate complete duly erected in an approved manner.	Each	1213	36	1249

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-8-58	Supplying and erecting Modular switch with LED indicator available to connect in a switch board to glow LED when connected load is off, on provided double mounting plate complete duly erected in an approved manner.	Each	113	17	130
1-8-59 (New)	Supplying and erecting Modular type USB Charger socket of 1 Module with nominal output voltage of 5 VDC + 5/- 5% and Nominal output current of 5 V - 750 mA , ISI mark approved make duly erected on provided plate and box with wiring connections complete.	Each	705	26	731
<u>Point Wiring (PW)</u>					
<u>1.9 Point Wiring (WG-PW)</u>					
1-9-1	Point wiring for light/fan/bell in 20 mm metal conduit with 1.5 sq.mm (2+1E) FR grade copper wire,flush type switch, earthing and required accessories as per specification No: WG-PW/SW	Point	545	259	804
1-9-2	Point wiring in for light/fan/bell in 20 mm metal conduit with 1.5 sq.mm (2+1E) FRLS grade copper wire,flush type switch, earthing and required accessories as per specification No: WG-PW/SW	Point	552	259	811
1-9-3	Point wiring for independent plug in 20 mm metal conduit with 1.5 sq.mm (2+1E) FR grade copper wire,flush type switch, earthing and required accessories as per specification No: WG-PW/SW	Point	596	259	855
1-9-4	Point wiring for independent plug in 20 mm metal conduit with 1.5 sq.mm (2+1E) FRLS grade copper wire,flush type switch, earthing and required accessories as per specification No: WG-PW/SW	Point	604	259	863
1-9-5	Point wiring for light/fan/bell in 20 mm rigid PVC conduit with 1.5 sq.mm (2+1E) FR grade copper wire,flush type switch, earthing and required accessories as per specification No: WG-PW/SW	Point	302	199	501
1-9-6	Point wiring for light/fan/bell in 20 mm rigid PVC conduit with 1.5 sq.mm (2+1E) FRLS grade Copper wire with flush type switch and required accessories as per specification No: WG-PW/SW	Point	303	199	502
1-9-7	Point wiring for independent plug in 20 mm rigid PVC conduit with 1.5 sq.mm FR grade copper wire,flush type switch, earthing and required accessories as per specification No: WG-PW/SW	Point	327	199	526

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-9-8	Point wiring for independent plug in 20 mm rigid PVC conduit with 1.5 sq.mm (2+1E) FRLS grade copper wire, flush type switch, earthing and required accessories as per specification No: WG-PW/SW	Point	342	199	541
1-9-9	Point wiring for light/fan/bell concealed type in min 20 mm PVC conduit with 1.5 sq.mm. (2+1E) FR grade copper wires, moduler type switch, earthing and required accessories as per specification No: WG-PW/CW	Point	476	278	754
1-9-10	Supplying and Drawing of 2x1.5 sq.mm. FR grade copper wires with 1.5 sqmm earthwire in provided concealed pipes for concealed type light/fan/bell point wiring and terminating on modular accessories in box for point wiring for light/fan/bell as per specification No: WG-PW/CW	Point	242	173	415
1-9-11	Point wiring for independent plug, concealed type in min 20 mm PVC conduit with 1.5 sq.mm (2+1E) FR grade copper wires, moduler type switch and socket, earthing and required accessories as per specification No WG-PW/SW	Point	548	278	826
1-9-12	Supplying and drawing of 2x1.5 sq.mm. FR grade copper wires with 1.5 sqmm earthwire in provided concealed pipes and terminating on moduler accessories in box for point wiring for independent plug as per specification No WG-PW/SW	Point	498	173	671
1-9-13	Wiring for plug on board with Switch socket with copper wiring and earthing as per specification No: WG-PW/SW	Point	79	32	111
1-9-14	Wiring for plug on board with Switch socket concealed type and copper wiring, earthing and with modular accessories as per specification No: WG-PW/CW	Point	362	190	552
1-9-15	Point wiring for light/fan/bell /exhaust fan Hybrid type (Surface type under false ceiling and concealed type for drops & switch boards on walls) in min 20 mm PVC conduit / casing n capping with 1.5 sq.mm. (2+1E) FR grade copper wires, moduler type switch, earthing and required accessories as per specification No: WG-PW/CW		447	229	676
1-9-16	Point wiring in PVC trunking (casing-capping) with 1.5 sq.mm (2+1E) FR grade copper wire, flush type switch, earthing and required accessories as per specification No: WG-PW/SW	Point	240	99	339

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-9-17	Point wiring in PVC trunking (casing-capping) with 1.5 sq.mm (2+1E) FRLS grade copper wire, flush type switch, earthing and required accessories as per specification No: WG-PW/SW	Point	246	99	345
1-9-18	Point wiring for independent plug in PVC trunking (casing-capping) with 1.5 sq.m (2+1E) FR grade copper wire with flush type switch and required accessories as per specification No: WG-PW/SW	Point	283	129	412
1-9-19	Point wiring for independent plug in PVC trunking (casing-capping) with 1.5 sq.mm FRLS grade copper wire, flush type switch, earthing and required accessories as per specification No: WG-PW/SW	Point	291	129	420
1-9-20	Concealing provided M.S./ PVC switch box in wall with finishing in an approved manner as per specification No: WG-PW/CW	Each	21	39	60
1-9-21	Deleted				
1-9-22	Refilling the holes for dismantled point wiring with cement mortar & finishing in an approved manner.	Point	17	13	30
1-9-23 (New)	Secondary Point wiring for additional light/ Bell point , concealed type in min 20 mm PVC conduit with 1.5 sq.mm. (2+1E) FR/FRLS grade copper wires with required accessories as per specification No: WG-PW/CW	Point	157	60	217
1-9-24 (New)	Secondary Point wiring for additional light/ Bell point in PVC trunking (casing-capping) with 1.5 sq.m (2+1E) FR / FRLS grade copper wire with required accessories as per specification No: WG-PW/SW	Point	152	60	212
1-9-25 (New)	Secondary Point wiring for additional light/ Bell point in min 20 mm metal conduit with 1.5 sq.m (2+1E) FR/FRLS grade copper wire with required accessories as per specification No: WG-PW/SW	Point	322	60	382
Note:-	<p>1) For point wiring above 6 meters of length, add 10 % of overall rate of point wiring for every additional 1 meter length or part thereof.</p> <p>2) Point wiring starts from Main board/Intermediate switch board and suitable circuit mains are to be provided from D.B. to first board and between boards.</p> <p>3) For point wiring in stair case with 2 way control point increase overall rate by 50 % of light point wiring.</p> <p>4) For wiring on stone wall add Rs 15.00 per point wiring.</p> <p>5) For covering at wall entries acrylic sheet of appropriate size shall be provided. (Refer</p>				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
Item No. 6-1-9)					
	6) Whenever point wiring with modular switches are required add Rs. 193 /- per point for light, bell, exhaust fan & Rs. 217/- for Fan point, Rs. 292/- for independent plug point or plug on board.				
	7) For Concealed point wiring, instead of Modular switches & accessories, ordinary switches & accessories are to used, then deduct Rs. 193 /- for point wiring & Rs. 217 /- for fan point and Independent plug point wiring and Rs. 292 /- for plug on board, from overall rates.				
	8) For concealed type wiring multistrand wires shall be used preferably.				
	9) Earth Wire of minimum 1.5 sq mm Shall be terminated in each point				
	10) For poin wiring in FRLSH wire add 2% Over Point wiring with FRLS Wire overall rate.				
<u>1.10 Telephone Wiring(WG-TW/TW)</u>					
1-10-1	Deleted				
1-10-2	Supplying & erecting telephone cable 2 pair with 0.5 mm dia. laid in provided PVC casing / conduit asper specification No. WG-TW	m	13	10	23
1-10-3	Supplying & erecting telephone cable 3 pair with 0.5 mm dia. laid in provided PVC casing / conduit as per specification No. WG-TW	m	19	10	29
1-10-4	Supplying & erecting telephone cable 4 pair with 0.5 mm dia. laid in provided PVC casing / conduit as per specification No. WG-TW	m	26	12	38
1-10-5	Supplying & erecting telephone cable 5 pair with 0.5 mm dia. laid in provided PVC casing / conduit as per specification No. WG-TW	m	34	15	49
1-10-6	Supplying & erecting telephone cable 10 pair with 0.5 mm dia. laid in provided PVC casing / conduit asper specification No. WG-TW	m	56	15	71
1-10-7	Supplying & erecting telephone cable 20 pair with 0.5 mm dia. laid in provided PVC casing / conduit asper specification No. WG-TW	m	106	15	121
1-10-8	Supplying & erecting telephone cable 50 pair with 0.5 mm dia. laid in provided PVC casing / conduit asper specification No. WG-TW	m	289	30	319

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-10-9	Supplying & erecting telephone cable 100 pair with 0.5 mm dia. laid in provided PVC casing / conduit as per specification No. WG-TW	m	570	45	615
1-10-10	Supplying & erecting Jelly filled unarmoured Telephone Cable 10 pair with 0.5 mm dia. laid in provided PVC casing / conduit as per specification No. WG-TW	m	79	30	109
1-10-11	Supplying & erecting Jelly filled unarmoured Telephone Cable 20 pair with 0.5 mm dia. laid in provided PVC casing / conduit as per specification No. WG-TW	m	142	30	172
1-10-12	Supplying & erecting Jelly filled unarmoured Telephone Cable 50 pair with 0.5 mm dia. laid in provided PVC casing / conduit as per specification No. WG-TW	m	334	45	379
1-10-13	Supplying & erecting Jelly filled unarmoured Telephone Cable 100 pair with 0.5 mm dia. laid in provided PVC casing / conduit as per specification No. WG-TW	m	638	45	683
1-10-14	Supplying & erecting Jelly filled armoured telephone cable 10 pair with 0.5 mm dia. laid in provided trench as per specification No. WG-TW	m	112	30	142
1-10-15	Supplying & erecting Jelly filled armoured telephone cable 20 pair with 0.5 mm dia. laid in provided trench as per specification No. WG-TW	m	161	30	191
1-10-16	Supplying & erecting Jelly filled armoured telephone cable 50 pair with 0.5 mm dia. laid in provided trench as per specification No. WG-TW	m	362	45	407
1-10-17	Supplying & erecting Jelly filled armoured telephone cable 100 pair with 0.5 mm dia. laid in provided trench as per specification No. WG-TW	m	642	45	687
1-10-18	Supplying & erecting Jumper wire with 0.5 mm dia as per specification No. WG-TW	m	14	6	20
1-10-19	Supplying & installing Co-axial cable low voltage grade RG-11 as per specification No. WG-TW	m	56	15	71
1.11 Telephone Accessories (WG-TW/TA)					
1-11-1	Supplying, erecting & commissioning Main Distribution Frame (MDF) Box 50x50 pairs as per specification No. WG-TW	Each	2000	45	2045
1-11-2	Supplying, erecting & commissioning MDF Box 60 x 60 pairs as per specification No. WG-TW	Each	2153	45	2198
1-11-3	Supplying, erecting & commissioning MDF Box 100 x 100 pairs as per specification No. WG-TW	Each	3293	45	3338

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-11-4	Supplying, erecting & commissioning MDF Box 150 x 150 pairs as per specification No. WG-TW	Each	4604	90	4694
1-11-5	Supplying, erecting & commissioning MDF Box 200 x 200 pairs as per specification No. WG-TW	Each	6756	90	6846
1-11-6	Supplying, erecting & commissioning MDF Box 250 x 250 pairs as per specification No. WG-TW	Each	8578	90	8668
1-11-7	Supplying, erecting & commissioning MDF Box 300 x 300 pairs as per specification No. WG-TW	Each	9744	150	9894
1-11-8	Supplying, erecting & commissioning MDF Box 400 x 400 pairs as per specification No. WG-TW	Each	14037	210	14247
1-11-9	Supplying, erecting & commissioning MDF Box 500 x 500 pairs as per specification No. WG-TW	Each	17445	270	17715
1-11-10	Supplying, erecting & commissioning MDF Box 600 x 600 pairs as per specification No. WG-TW	Each	20491	390	20881
1-11-11	Supplying, erecting & commissioning MDF Box 800 x 800 pairs as per specification No. WG-TW	Each	30626	540	31166
1-11-12	Supplying, erecting & commissioning Junction box suitable for 10 pairs as per specification No. WG-TW	Each	604	51	655
1-11-13	Supplying, erecting & commissioning Junction box suitable for 20 pairs as per specification No. WG-TW	Each	733	51	784
1-11-14	Supplying, erecting & commissioning Junction box suitable for 30 pairs as per specification No. WG-TW	Each	1000	51	1051
1-11-15	Supplying, erecting & commissioning Junction box suitable for 40 pairs as per specification No. WG-TW	Each	1084	51	1135
1-11-16	Supplying, erecting & commissioning Junction box suitable for 50 pairs as per specification No. WG-TW	Each	1282	135	1417
1-11-17	Supplying, erecting & commissioning Junction box suitable for 60 pairs as per specification No. WG-TW	Each	1364	135	1499
1-11-18	Supplying, erecting & commissioning Junction box suitable for 100 pairs as per specification No. WG-TW	Each	2024	135	2159
1-11-19	Supplying, erecting & commissioning Junction box suitable for 150 pairs as per specification No. WG-TW	Each	2553	135	2688
1-11-20	Supplying, erecting & commissioning Krone module of 10 pairs as per specification No. WG-TW	Each	290	60	350

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-11-21	Supplying & erecting Over Voltage protection Magazine suitable for 10 pair as per specification No. WG-TW	Each	319	45	364
1-11-22	Supplying & erecting Rosette box RJ type Bakelite box on wall with LED indication duly connected as per specification No. WG-TW	Each	95	21	116
1-11-23	Supplying and erecting Broadband splitter unit with 1 input & 2 out put RJ 11 female connectors.	Each	212	51	263
1-11-24	Supplying, installing, testing & commissioning analogue type EPABX of 3 x 8 extension complete.	Job	12055	2700	14755
1-11-25	Supplying, installing, testing & commissioning analogue type EPABX of 3 x 8 extension complete with CLI and Voice DISA (Direct inward station access) as per specification No. WG-TW.	Job	13474	2700	16174
1-11-26	Supplying, installing, testing & commissioning Digital (Hybrid) type EPABX of 3 x 8(2 Digital+6 Analogue) extensions complete.	Job	24111	2700	26811
1-11-27	Supplying, installing, testing & commissioning Digital (Hybrid) type EPABX of 4 x 12(2 Digital+10 Analogue) extension complete.	Job	31202	2700	33902
1-11-28	Supplying, installing, testing & commissioning Digital (Hybrid) type EPABX of 6 x 16(2 Digital+14 Analogue) extension complete.	Job	39003	2700	41703
1-11-29	Supplying and installing, testing & commissioning of Digital (Hybrid) type EPABX of 8 x 20 (4 Digital+ 16 analog) extensions suitable upto 120 extentions	Job	54115	2700	56815
1-11-30	Supplying, installing, testing & commissioning Internet protocol digital type EPABX for 10 IP extentions complete.	Job	24338	3300	27638
1-11-31	Supplying, installing, testing & commissioning approved type Push button telephone instrument desk top/wall mount unit as per specification in approved manner	Each	672	96	768
1-11-32	Supplying, installing, testing & commissioning approved type Push button telephone instrument desk top/wall mount with caller ID unit as per specification in approved manner	Each	864	96	960
1-11-33	Supplying, installing, testing & commissioning approved type Digital key telephone / IP telephone instrument as per specification in approved manner.	Each	6078	570	6648
Note:-	1) Add Rs. 26365/= for additional 16 extension card. 2) Add Rs. 34165/= for additional 24 extension card. 3) Add Rs. 18665/= for additional 8 trunks ines card.				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	4) Minimum one Digital key telephone instrument is essential for commissioning digital type EPABX				
	<u>1.12 Computer Cabling (WG-COC)</u>				
1-12-1	Supplying & installing UTP networking Cat-6 cable suitable for LAN / WAN Computer networking as per specification No. WG-COC/NC	m	36	14	50
1-12-2	Supplying and fixing Cat-6 LSZH cable suitable for LAN / WAN as per specification in approved manner	m	46	14	60
1-12-3	Supplying & installing UTP networking Cat-6+ cable suitable for LAN / WAN Computer networking as per specification no. WG-COC/NC	m	77	14	91
1-12-4	Supplying and fixing Cat-6A LSZH cable suitable for LAN / WAN as per specification in approved manner	m	91	14	105
1-12-5	Supplying and fixing Cat-6 STP cable suitable for LAN / WAN as per specification in approved manner	m	75	14	89
1-12-6	Supplying and fixing 1 meter length, UTP Patch cord of Cat 6 type in position as per specification No. WG-COC/PC	Each	236	22	258
1-12-7	Supplying and fixing 3 meter length, UTP Patch cord of Cat 6 type in position as per specification No. WG-COC/PC	Each	335	22	357
1-12-8	Supplying and erecting FR grade, PVC armoured multimode armoured multimode Optical Fibre Cable with 6 fibres , with core dia 50/125 μm (OM3) suitable for 1 GBps ethernet distance at 850 nm of wavelength, on wall/ceiling or laid in provided pipe/trench as per specification No. WG-COC/OFC LSZH	m	154	71	225
1-12-9	Supplying and erecting LSZH armoured multimode Optical Fibre Cable with 12 fibres , with core dia 50/125 μm (OM3) , suitable for 1 GBps ethernet distance at 850 nm of wavelength, on wall/ceiling or laid in provided pipe/trench as per specification No. WG-COC/OFC	m	264	71	335
1-12-10	Supplying and erecting LSZH armoured multimode Optical Fibre Cable with 24 fibres , with core dia 50/125 μm (OM3) , suitable for 1 GBps ethernet distance at 850 nm of wavelength, on wall/ceiling or laid in provided pipe/trench as per specification No. WG-COC/OFC	m	425	85	510

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-12-11	Supplying and erecting LSZH armoured multimode Optical Fibre Cable with 6 fibres , with core dia 50/125 µm (OM4) suitable for 1 GBps ethernet distance at 850 nm of wavelength, on wall/ceiling or laid in provided pipe/trench as per specification No. WG-COC/OFC	m	1140	71	1211
1-12-12	Supplying and erecting LSZH armoured multimode Optical Fibre Cable with 12 fibres , with core dia 50/125 µm (OM4) suitable for 1 GBps ethernet distance at 850 nm of wavelength, on wall/ceiling or laid in provided pipe/trench as per specification No. WG-COC/OFC	m	1940	71	2011
1-12-13	Supplying and erecting LSZH armoured multimode Optical Fibre Cable with 24 fibres , with core dia 50/125 µm (OM4) as per specification in approved manner	m	3351	85	3436
1-12-14	Supplying and plugging FRLS duplex 3 meter length, Fibre Patch cord LC-SC MM(50) OM3 LSZH DUPLEX complete as per specification No. WG-COC/FPC	Each	2723	94	2817
1-12-15	Supplying and plugging FRLS duplex 3 meter length, Fibre Patch cord LC-SC MM(50) OM4 LSZH DUPLEX complete as per specification No. WG-COC/FPC	Each	3966	94	4060
1-12-16	Supplying and plugging FRLS duplex 3 meter length, Fibre Patch cord LC-LC MM(50) OM3 LSZH DUPLEX complete as per specification No. WG-COC/FPC	Each	4183	94	4277
1-12-17	Supplying and plugging FRLS duplex 3 meter length, Fibre Patch cord LC-LC MM(50) OM4 LSZH DUPLEX complete as per specification No. WG-COC/FPC	Each	6222	94	6316
1-12-18 (New)	Supplying and fixing 2 meter length, UTP Patch cord of Cat 6 type in position as per specification No. WG-COC/PC	Each	284	22	306
<u>1.13 Networking Components (WG- NWC)</u>					
1-13-1	Supplying, fixing, and configuring Web Smart Power over Ethernet Switch of 24 Ports on provided rack or as directed as per specification No. WG-NWC/ENS	Each	41697	2165	43862
1-13-2	Supplying, fixing, and configuring Managed L2 Power over Ethernet Switch of 20 Ports + 4G Combo Port as per specification in approved manner	Each	116462	5026	121488
1-13-3	Supplying, fixing, and configuring 589Watt Redundant Power Supply system as per specification in approved manner	Each	76586	2784	79370

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-13-4	Supplying, fixing, and configuring Ethernet Managed Ethernet Switch of 24 Ports with 2 SFP + 2 Combo Port and WebView/CLI on provided rack or as directed as per specification no. WG-NWC/GBS	Each	26135	2784	28919
1-13-5	Supplying, fixing, and configuring GB Managed Ethernet Layer 2 Switch of 20 Ports + 4 SFP Combo and WebView/CLI as per specification in approved manner	Each	53611	2784	56395
1-13-6	Supplying, fixing, and configuring GB Managed Ethernet Layer 2+ Switch of 20 Ports+4 SFP Combo+10GE SFP+ and WebView/CLI as per specification in approved manner	Each	16275	2784	19059
1-13-7	Supplying, fixing, and configuring 10G Base - SR SFP Plus MM Transceiver as per specification in approved manner	Each	44675	2784	47459
1-13-8	Supplying, fixing, and configuring Layer 3/ 20 10/100/1000 Base-T ports + 4 Combo 10/100/1000Base-T/SFP ports + 4 10GE SFP+ ports - SI Image as per specification in approved manner	Each	241248	12646	253894
1-13-9	Supplying, fixing, and configuring 10G Base - SR SFP Plus MM Transceiver as per specification in approved manner	Each	44675	5567	50242
1-13-10	Supplying, fixing, and configuring 1-port mini-GBIC SX Mutli-mode Fiber Transceiver (up to 550m, support 3.3V power) as per specification in approved manner	Each	10052	172	10224
1-13-11	Supplying, fixing, and configuring Broadband ADSL Router with all accessories, on provided rack or as directed as per specification No. WG-NWC/ADSL	Each	3999	692	4691
1-13-12	Supplying, fixing, and configuring Modularised Multi-service Router as per specification in approved manner	Each	161466	8037	169503
1-13-13	Supplying, fixing, and configuring Dual-path serial card as per specification in approved manner	Each	35751	3010	38761
1-13-14	Supplying, fixing, and configuring DB-60 (male) to 2 x DB-34 (male) for V.35 DTE as per specification in approved manner 1.14 Networking Accessories (WG-NAS)	Each	3371	69	3440
1-14-1	Supplying, installing & testing UTP Connector (RJ-45) as per specification No. WG-NAS/UTPC.	Each	38	55	93
1-14-2	Supplying and fixing Tool-less Information Outlet (Ethernet) flush/surface type in position as per specification no. WG-NAS/IO	Each	405	69	474

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-14-3	Supplying and fixing Tool-less shutter Keystone Jack (RJ-45) in provided Patch Panel complete as per specification no. WG-NAS/KJ	Each	45	55	100
1-14-4	Supplying and fixing 24 port Patch Panel with tool-less keystone jacks in provided U Rack complete as per specification no. WG-NAS/PP	Each	10303	926	11229
1-14-5	Supplying and fixing Rack mounted type 12 Ports, Light guide unloaded Interconnect Unit with adapter Panel for termination of Optical fibre cables on wall/ provided U Rack complete as per specification no. WG-NAS/LIU	Each	3475	893	4368
1-14-6	Supplying and fixing Wall Mount 12 Ports, Light guide unloaded Interconnect Unit with adapter Panel as per specification in approved manner	Each	3515	996	4511
1-14-7	Supplying and fixing 1 X 6 Duplex Adapter Panel - SC as per specification in approved manner	Each	155	151	306
1-14-8	Supplying and fixing Rack type 24 Ports, Light guide Interconnect Unit with adapter panel for termination of Optical fibre cables on wall/ provided U Rack complete as per specification no. WG-NAS/LIU	Each	3603	1048	4651
1-14-9	Supplying and fixing Wall Mount 24 Ports, Light guide Interconnect Unit with adapter panel as per specification in approved manner	Each	4175	911	5086
1-14-10	Supplying and fixing 1 X 12 Duplex Adapter Panel - SC as per specification in approved manner	Each	240	95	335
1-14-11	Supplying and fixing SC/LC type Multimode Duplex Adaptor to couple two connectors between OFC & Fibre switch/Fibre module as per specification no. WG-NAS/MMA	Each	432	95	527
1-14-12	Supplying and fixing SC/LC type Multimode Duplex Adaptor as per specification in approved manner	Each	468	95	563
1-14-13	Supplying and fixing SC/LC type Multimode Pigtails (OM3) for LIU to terminate OFC in LIU as per specification No. WG-NAS/LIU2	Each	384	287	671
1-14-14	Supplying and fixing SC/LC type Multimode Pigtails (OM3) as per specification in approved manner	Each	490	304	794
1-14-15	Supplying and fixing SC/LC type Multimode Pigtails (OM4) as per specification in approved manner	Each	767	396	1163
1-14-16	Deleted				
1-14-17	Supplying and fixing Power over Ethernet Adaptor to provide DC supply to Ethernet devices as per specification No. WG-NAS/PEA	Each	4494	165	4659

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1-14-18	Supplying and fixing 36 U Rack for Networking with necessary arrangement for fixing required 16A/6A Switches & Plugs for LAN network as per specification No. WG-NAS/RAK	Each	4467	1227	5694
1-14-19	Supplying and fixing 6U Wall Mount Rack (Dimension-DxWXH - 450X550X367 mm) as per specification in approved manner	Each	5361	1227	6588
1-14-20	Supplying and fixing 9U Wall Mount Rack (Dimension-DxWXH - 450X550X500 mm) as per specification in approved manner	Each	7247	1227	8474
1-14-21	Supplying and fixing 12U Wall Mount Rack (Dimension-DxWXH - 450X550X635 mm) as per specification in approved manner	Each	8200	1227	9427
1-14-22	Supplying and fixing 15U Wall Mount Rack (Dimension-DxWXH - 450X550X767 mm) as per specification in approved manner	Each	9519	1227	10746
1-14-23	Supplying and fixing 36U Floor Mount Rack (Dimension-DxWXH - 800X600X1600 mm) as per specification in approved manner	Each	52669	1227	53896
1-14-24	Supplying and fixing 42U Floor Mount Rack (Dimension-DxWXH - 800X600X1866 mm)	Each	69038	1227	70265
1-14-25	Supplying and fixing Wireless Wireless N 150 Desktop Adapter in provided computer as per specification No. WG-NAS/LANC2	Each	1280	95	1375
1-14-26	Supplying and fixing Manageable Wireless Air Premier N 2.4GHz PoE Access Point (5 dBi antenna) in WLAN network as per specification no. WG-NAS/LAP1	Each	18094	1519	19613
1-14-27	Supplying and fixing 11n 2.4 GHz single band PoE Access Point as per specification in approved manner	Each	22784	1519	24303
1-14-28	Supplying and fixing High Performance Manageable Wireless N Selectable Dualband Access Point w PoE in WLAN network as per specification no. WG-NAS/LAP2	Each	27799	1519	29318
1-14-29	Supplying and fixing 11n Unified N Concurrent Dual-band PoE Access Point as per specification in approved manner	Each	33017	1519	34536
1-14-30	Supplying and fixing 20 10/100/1000Base-T ports Unified Management Switch with 4 Combo 1000Base-T/SFP ports and 12 Access Point Management Ability as per specification in approved manner	Each	120624	11809	132433
1-14-31	Supplying and activating Physical License Pack software for supporting 12 Additional APs on DWS-3160-24TC	Each	36148	0	36148
1-14-32	Supplying and activating Physical License Pack software for supporting 24 Additional	Each	52327	0	52327

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	APs on DWS-3160-24TC				
1-14-33 (New)	Supplying, fixing, and configuring 8-ports 10/100/1000Mbps Unmanaged Gigabit PoE Switch(New)	Each	17262	215	17477
1-14-34 (New)	Supplying, fixing, and configuring 8-ports Managed Gigabit Switches Layer-2 , 10/100/1000 Base-T PoE Smart Switch plus 2 SFP only(New)	Each	24568	215	24783
1-14-35 (New)	Supplying, fixing, and configuring 20 SFP ports + 4 Combo SFP/10/100/1000Base-T (New)	Each	200787	4717	205504
1-14-36 (New)	Supplying, fixing, and configuring 48 Ports Managed Gigabit Switches Layer-2 48 10/100/1000Base-T ports L2+ Management Switch with 4 10GE SFP+ ports (New)	Each	192388	660	193048
1-14-37 (New)	Supplying, fixing, and configuring Managed Gigabit Switches 48 Ports 10/100/1000Mbps + 4 SFP Ports (New)	Each	65018	660	65678
1-14-38 (New)	Supplying, fixing, and configuring Media Converter 1000Base-T to 1000Base-SX SC Multi-mode Media Converter (550m) (New)	Each	13022	660	13682
1-14-39 (New)	Supplying & installing UTP networking CAT 7 Cable , 4 pair 23 AWG CAT6A LSZH LAN Cable , standards like ANSI/TIA 568 C.2, EN50173, IEC 11801 2nd ED, 600Mhz Speed.frequency tested upto 700Mhz with Third Party Certificate etc.	Each	129	14	143
1-14-40 (New)	Supplying & installing Single Mode OS1/OS2 - Armoured - 6 Core OS1/OS2 Armoured Single mode Optical Fiber of size 50/125µm. 10/40 Gbps Speed.In Provided Underground HDPE Pipe	Each	73	30	103
1-14-41 (New)	Supplying & installing Single Mode OS1/OS2 - Armoured - 12 Core OS1/OS2 Armoured Single mode Optical Fiber of size 50/125µm. 10/40 Gbps Speed. In Provided Underground HDPE Pipe	Each	87	30	117
1-14-42 (New)	Supplying & installing Single Mode OS1/OS2 - Armoured - 12 Core OS1/OS2 Armoured Single mode Optical Fiber of size 50/125µm. 10/40 Gbps Speed. In Provided Underground HDPE Pipe	Each	87	30	117
1-14-43 (New)	Supplying & installing Single Mode Fiber Patch Cord Patch Cords - 3 m – Duplex	Each	2341	30	2371
1-14-44 (New)	Supplying & installing Single Mode Fiber Adaptor with Plate - 6 Port	Each	4274	30	4304
1-14-45 (New)	Supplying & installing Single Mode PIGTAIL SIMPLEX	Each	682	30	712

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
1.15 Dismantling (WG-DM)					
1-15-1	Dismantling the existing light, fan, bell, clock, independent plug point, wiring including circuit mains of all types along with accessories etc.complete as per specification No: WG-DM/PW	Point	-2	10	8
1-15-2	Dismantling the existing Telephone / Lan / Wan / TV cables and wires of all sizes along with casing-capping / conduit complete as per specification No: WG-DM/PW	m	-1	6	5
1-15-3 (New)	Dismantling the existing Aluminium/copper mains,sub-mains wiring upto 10 sq.mm. along with accessories etc.Complete as per specification No: WG-DM/PW	m	-2	5	3
Note:-	Dismantled material of Point wiring / circuit mains/mains, sub-mains / telephone / LAN / WAN / TV wires / cables shall be retained by contractor.				

Chapter : 2

Fittings (FG)

2.1 Lamps and Tubes for Indoor & Outdoor	(FG-LP)
2.2 Accessories for Indoor Fittings	(FG-AS)
2.3 Decorative Indoor Fittings	(FG-IDF)
2.4 General Indoor Fittings	(FG-IDF)
2.5 Indoor LED Fittings	(FG-IDF/LED)
2.6 Accessories for Outdoor Fittings	(FG-AS)
2.7 Decorative Outdoor Fittings	(FG-ODF)
2.8 Street/Flood Light Fittings	(FG-ODF)
2.9 LED Outdoor Fittings	(FG-ODF/LED)
2.10 Outdoor LED Fittings	(FG-ODF/IL)
2.11 Aviation Light Fittings	
2.12 Accessories for Fans	(FG-FN)
2.13 Fans	(FG-FN)
2.14 Dismantling	

Chapter: 2 Fittings (FG)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>2.1 Lamps and Tubes for Indoor & Outdoor</u>					
<u>(FG-LP)</u>					
2-1-1	Deleted				
2-1-2	Deleted				
2-1-3	Deleted				
2-1-4	Deleted				
2-1-5	Deleted				
2-1-6	Deleted				
2-1-7	Deleted				
2-1-8	Supplying and erecting Pigmy /candle lamp miniature type coloured/ white.	Each	28	3	31
2-1-9	Supplying and erecting T8 Fluorescent tube day light 600mm 18 W	Each	32	6	38
2-1-10	Supplying and erecting T8 Fluorescent tube day light 1200mm 36 W	Each	53	6	59
2-1-11	Supplying and erecting T8 Fluorescent tube triphosper/Turband phosper 36 W .	Each	106	6	112
2-1-12	Supplying and erecting T5 14 W energy efficient fluorescent tube.	Each	100	6	106
2-1-13	Supplying and erecting T5 24 W Energy Efficient fluorescent tube.	Each	132	6	138
2-1-14	Supplying and erecting T5 28 W energy efficient fluorescent tube.	Each	116	6	122
2-1-15	Deleted				
2-1-16	Deleted				
2-1-17	Deleted				
2-1-18	Deleted				
2-1-19	Deleted				
2-1-20	Deleted				
2-1-21	Deleted				
2-1-22	Deleted				
2-1-23	Deleted				
2-1-24	Deleted				
2-1-25	Deleted				
2-1-26	Deleted				
2-1-27	Supplying & erecting 0.5W , 230V integral type LED Lamp suitable for B-22/E-27 base.	Each	76	6	82
2-1-28	Supplying & erecting 2W-3W , 230V integral type LED Lamp suitable for B-22/E-27 base.	Each	159	6	165

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-1-29	Supplying & erecting 5W-8W , 230V integral type LED Lamp suitable for B-22/E-27 base.	Each	248	6	254
2-1-30	Supplying & erecting ready to use Retrofit T8 LED 18 / 20 tube light with polycarbonate body, heat sink, integrated HF electronic driver complete & compatible to T8 / T12 LED luminaire with lamp.	Each	636	30	666
	Note:-				
	1)System efficacy shall not be less than 85 lumens/watt				
	2)LED Lamp /tube shall carry minimum one year warranty.				
2-1-31	Deleted				
2-1-32	Deleted				
2-1-33	Deleted				
2-1-34	Deleted				
2-1-35	Deleted				
2-1-36	Supplying and erecting HPSV lamp 3 pin BC/Screwed cap head / pin type 230V, 70 W SON type.	Each	211	24	235
2-1-37	Supplying and erecting HPSV lamp 3 pin BC/Screwed cap head /pin type 230V, 150 W SON type.	Each	633	24	657
2-1-38	Supplying and erecting HPSV lamp 3 pin BC/Screwed cap head /pin type 230V, 250 W SON type.	Each	707	24	731
2-1-39	Supplying and erecting HPSV lamp 3 pin BC/Screwed cap head /pin type 230V, 400 W SON type.	Each	807	24	831
2-1-40	Supplying and erecting HPSV lamp 3 pin BC/Screwed cap head /pin type 230V, 70 W SON-T-type.	Each	211	24	235
2-1-41	Supplying and erecting HPSV lamp 3 pin BC/Screwed cap head /pin type 230V, 150 W SON-T-type.	Each	633	24	657
2-1-42	Supplying and erecting HPSV lamp 3 pin BC/Screwed cap head /pin type 230V, 250 W SON-T-type.	Each	734	24	758
2-1-43	Supplying and erecting HPSV lamp 3 pin BC/Screwed cap head /pin type 230V, 400 W SON-T-type.	Each	807	24	831
2-1-44	Supplying and erecting Metal Halied lamp double ended 230V, 70 W .	Each	443	24	467
2-1-45	Supplying and erecting Metal Halied lamp double ended 230V, 150 W .	Each	464	24	488
2-1-46	Supplying and erecting Metal Halied lamp double ended 230V, 250 W.	Each	802	24	826

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-1-47	Supplying and erecting Metal Halied lamp double ended 230V, 400 W .	Each	844	24	868
2-1-48	Deleted				
2-1-49	Deleted				
2-1-50	Erection of Deptt. supplied HPSV/HPMV/SON/SON-T/LED Type bulb.	Each	0	24	24
2-1-51 (NEW)	Supplying & erecting 10-12W , 230V integral type LED Lamp suitable for B-22/E-27 base.	Each	308	6	314
2-1-52 (NEW)	Supplying & erecting 14W , 230V integral type LED Lamp suitable for B-22/E-27 base.	Each	351	6	357
2-1-53 (NEW)	Supplying & erecting 18W , 230V integral type LED Lamp suitable for B-22/E-27 base.	Each	686	6	692
2-1-54 (NEW)	Erection of Deptt.supplied retrofit T8 LED 18 / 20 tube light fitting.	Each	0	6	6
Note:-	2) For Use of Single ended MH Lamps increase overall rates by 40% of the rate of double ended lamps				
	<u>2.2 Accessories for Indoor Fittings (FG-AS)</u>				
2-2-1	Supplying and erecting low watt loss Vaccum impregnated copper choke (VPIT) suitable for CFL/FTL upto 20 W as per specification No FG/AS1	Each	178	30	208
2-2-2	Supplying and erecting low watt loss Vaccum impregnated copper choke (VPIT) suitable for CFL/FTL from 24 to 40 W as per specification No. FG/AS1	Each	249	30	279
2-2-3	Supplying and erecting electronic ballast , pf > 0.9 or Transformer suitable for T5 lamp upto 28 W as per specification No. FG-FG/AS1	Each	235	30	265
2-2-4	Supplying and erecting electronic ballast , pf > 0.9 or Transformer suitable for CFL/FTL upto 40 W as per specification No. FG-FG/AS1	Each	311	30	341
2-2-5	Supplying 18 / 20 /36 / 40 W tube starter 230 V as per specification No. FG-FG/AS1	Each	12	3	15
2-2-6	Supplying and erecting double suspension heavy duty lacquered iron chain with hooks for erecting fluo.tube light fitting with necessary shielded copper flexible wire three core of 1 sq mm for connecting leads. (for measurements half of the actual length used)	Each	25	9	34

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-2-7	Supplying and erecting double suspension pipe rod of 16 gauge 20mm.dia H.G.conduit duly threaded and painted with two coats of enamel paint for erection of fluo tube light fitting with necessary check nuts and shielded copper flexible wire three core of 1 sq mm for connecting leads (for measurements half of the actual length both pipes used)	Each	150	21	171
2-2-8	Supplying and erecting ball suspension plate cast aluminum erected with spring on wooden block in position.	Each	24	9	33
2-2-9	Providing and erecting clamps for box type / industrial type fittings with provided suspension down rod of 20 mm dia. H.G.conduit,the clamp shall be made of 25 x 3 mm MS flat with Cutting,bending,drilling erected properly with necessary nut bolt as per direction.	Each	57	15	72
2-2-10	Supplying and fixing wiremesh (Jali) cover suitable for fitting / fan or for any purpose, complete with necessary materials. The Jali cover shall be made from good quality G.I. wire mesh size 25 mm x 25 mm and made up of 14 SWG G.I. wire with side / supporting MS strips of suitable size.	Each	396	45	441
2-2-11	Supplying and erecting Bakelite call bell with 6 cm / buzzer with double coil suitable for 230V complete erected on PVC block.	Each	45	21	66
2-2-12	Supplying and erecting gong with double coil suitable for 230V. complete erected on polished wooden block.	Each	55	21	76
2-2-13	Supplying and erecting Ding Dong / electronic musical type call bell with heavy duty coil suitable to operate on 230V A.C. supply erected on polished double wooden block/sunmica block of suitable size	Each	90	21	111
2-2-14	Supplying and erecting luminous / modular type call bell indicator with plastic body , heavy duty coil and indicator lamp working on 230V A.C. supply with resetting arrangement complete erected on double wooden/ sunmica board	Each	197	21	218
2-2-15	Supplying and erecting Electronic Type cordless call bell erected on T.W. board having portable bell push working on 9V. D.C. and V A.C. supply. (Effective range upto 45 meter) bell on 250	Each	407	15	422
2-2-16	Deleted				
2-2-17	Supplying and erecting condensor 4 microfarad for fluo. Fitting, as per specification	Each	61	30	91

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	No FG-FG/AS7				
2-2-18	Supplying and erecting electronic type 600 W dimmer complete erected on provided switch board.	Each	138	15	153
2-2-19	Supplying and erecting electronic type 300/450 W dimmer complete erected on provided switch board.	Each	144	15	159
	Note:- Use of electronic chokes, energy saving accessories shall be made preferably.				
	<u>2.3 Decorative Indoor Fittings (FG-IDF)</u>				
2-3-1	Supplying table lamp with M.S. tube with flexible joints complete suitable for lamp 1 x upto 13 W complete with lamp and 3 core round PVC flexible cord with 6A 3 pin hand shield type plug top.	Each	1132	0	1132
2-3-2	Supplying shock proof type hand lamp with lamp holder, guarded glass and 10 m of 3 core PVC flexible cord with hand shield type 3 pin 6 Amp plug top.	Each	154	0	154
2-3-3	Deleted				
2-3-4	Supplying and erecting plain pendent type bakelite lamp holder complete erected at position with necessary length of twin flexible wire.(upto 1m)	Each	22	15	37
2-3-5	Supplying and erecting plain pendent type brass lamp holder complete erected at position with 20 cms glass opal shade with necessary length of twin twisted flexible wire 24 / 0.20 mm. (upto 1m)	Each	77	15	92
2-3-6	Supplying and erecting Rod Pendent light with 20 mm dia. H.G. screwed conduit of 16 SWG duly painted with ball suspension plate, with glass opal shade complete erected on polished double wooden block with necessary PVC wire leads.	Each	152	21	173
2-3-7	Supplying and erecting one light Wall bracket fitting with dome complete fixed on the wall.	Each	108	36	144
2-3-8	Supplying and erecting one light wall bracket MS body & arm Chromium plated/ powder coated complete fixed on wall.	Each	216	36	252
2-3-9	Supplying and erecting glass shade of suitable size and shape of approved colour and quality on existing decorative fitting	Each	72	24	96

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-3-10	Supplying and erecting bulkhead fitting suitable for upto LED upto 12W fixed on wall. As per specification no.FG-IDF/BHF	Each	175	30	205
2-3-11	Deleted		0	45	45
2-3-12	Supplying and erecting 1 light wall bracket Aluminum body & arm anodised / powder coated with decorative glass shade fixed on wall.	Each	227	36	263
2-3-13	Supplying and erecting 2 light wall bracket Aluminum body & arm anodised / powder coated complete with lamp holder and decorative glass shade suitably erected on polished wooden board / plywood pasted with laminate.	Each	373	36	409
2-3-14	Supplying and erecting 1 light fancy wall bracket with arm fabricated from brass duly lacquered with suitable holder and fancy glass shade duly wired erected on wall with suitable size of polished wooden / laminated board.	Each	462	36	498
2-3-15	Supplying and erecting 2 light fancy wall bracket with arm fabricated from brass duly lacquered with suitable holder and fancy glass shade duly wired erected on wall with suitable size of polished wooden / laminated board.	Each	758	36	794
2-3-16	Supplying & erecting approved type suspension type decorative pendent fitting single light with anodized aluminium / powder coated MS rod up to 1 m length and canopy on top provided with decorative glass shed duly wired with two core flat wire suitable lamp holder complete.	Each	424	48	472
2-3-17	Supplying & erecting approved type suspension type decorative fitting with rise /fall arrangement , 1 light inside semi circular metallic reflector with counterweight with guide pulley / spring buffer with work shop type copper flexible wire complete with necessary hook, if required	Each	1570	66	1636
2-3-18	Erection of Departmentally supplied fitting on PVC block connected with necessary leads for 4'40 Watts. fitting and 2'20 W. fitting and with marking the sr. no. & date of erection.	Each	12	45	57
2-3-19	Erection of Departmentally supplied surface/recess type decorative fitting with LED on PVC block connected with necessary leads.	Each	12	45	57
2-3-20	Erection of Departmentally supplied mirror optic type fitting on PVC block connected with necessary leads and with marking the Sr. No. & date of erection.	Each	12	51	63

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>2.4 General Indoor Fittings (FG-IDF)</u>					
2-4-1	Deleted				
2-4-2	Deleted				
2-4-3	Deleted				
2-4-4	Deleted				
2-4-5	Deleted				
2-4-6	Deleted				
2-4-7	Deleted				
2-4-8	Deleted				
2-4-9	Deleted				
2-4-10	Deleted				
2-4-11	Deleted				
2-4-12	Deleted				
2-4-13	Deleted				
2-4-14	Deleted				
2-4-15	Deleted				
2-4-16	Deleted				
2-4-17	Deleted				
2-4-18	Deleted				
2-4-19	Deleted				
2-4-20	Deleted				
2-4-21	Deleted				
2-4-22	Deleted				
2-4-23	Deleted				
2-4-24	Deleted				
2-4-25	Deleted				
2-4-26	Deleted				
2-4-27	Deleted				
2-4-28	Deleted				
2-4-29	Deleted				
2-4-30	Deleted				
2-4-31	Deleted				
2-4-32	Deleted				
2-4-33	Deleted				
2-4-34	Deleted				
2-4-35	Deleted				
2-4-36	Deleted				
2-4-37	Deleted				
2-4-38	Deleted				
2-4-39	Deleted				
2-4-40	Deleted				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-4-41	Supplying and erecting 2 x 36 / 40W FTL corrosion proof Capsule type in non corrosive polycarbonate housing and prismatic polycarbonate cover with individual high power electronic ballast saving Power factor >0.9 and working voltage range of 170 - 270V ACIP 65 protection suitable for cold storage areas to be fixed in false ceiling or at ceiling or on wall complete.	Each	3293	45	3338
Note for 2.3 & 2.4	<p>1) Reduce rate by Rs. 10/- if fitting is to be erected on existing boards/blocks.</p> <p>2) In all fittings (Excluding LED Fittings) cost of lamps or tubes shall be added separately.</p>				
	<u>2.5 Indoor LED Fittings (FG-IDF/LED)</u>				
2-5-1	Supplying & erecting decorative pre-wired box type fitting/batten suitable for 4' T8 LED tube light (Excluding tube light).	Each	249	45	294
2-5-2	Deleted				
2-5-3	Supplying and erecting LED square / circular 5 to 8W downlighter having pressure die-cast aluminium housing, opal translucent cover, mounting arrangement with board for surface type or spring loaded mounting clips for flush type complete.	Each	737	90	827
2-5-4	Supplying and erecting LED square / circular 9 to 12W downlighter having pressure die-cast aluminium housing, opal translucent cover, mounting arrangement with board for surface type or spring loaded mounting clips for flush type complete.	Each	1050	90	1140
2-5-5	Supplying and erecting LED square / circular 13 to 15W downlighter having pressure die-cast aluminum housing, opal translucent cover, mounting arrangement with board for surface type or spring loaded mounting clips for flush type complete.	Each	1239	90	1329
2-5-6	Supplying and erecting LED square / circular 16 to 20W downlighter having pressure die-cast aluminium housing, opal translucent cover, mounting arrangement with board for surface type or spring loaded mounting clips for flush type complete.	Each	1358	75	1433

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-5-7	Supplying and erecting square shaped CRCA /die-cast aluminium powder coated housing LED Panel light (slim edge-lit) suitable for upto 8 W with provision for plane front frame with translucent cover fixed to the housing complete.	Each	739	75	814
2-5-8	Supplying and erecting square shaped CRCA /die-cast aluminium powder coated housing LED Panel light (slim edge-lit) suitable for 9 W - 12 W with provision for plane front frame with translucent cover fixed to the housing complete.	Each	1124	75	1199
2-5-9	Supplying and erecting square / round shaped CRCA /die-cast aluminium powder coated housing LED Panel (slim edge-lit) light suitable for 13 to18W with provision for plane front frame with translucent cover fixed to the housing complete.	Each	1206	75	1281
2-5-10	Supplying and erecting CRCA /die-cast aluminium powder coated housing LED Panel light (slim edge-lit) square / round shape suitable for 19 to 24 W with provision for plane front frame with translucent cover fixed to the housing complete.	Each	1841	120	1961
2-5-11	Supplying and erecting square / rectangular shaped CRCA /die-cast aluminium powder coated housing LED Panel (slim edge-lit) light suitable for 25 to 32W with provision for plane front frame with translucent cover fixed to the housing complete.	Each	2979	120	3099
2-5-12	Supplying and erecting square shaped CRCA /die-cast aluminium powder coated housing LED Panel light (slim edge-lit) 600X600mm suitable for 36 W-40W with provision for plane front frame with translucent cover fixed to the housing complete.	Each	3636	120	3756
2-5-13	Supplying and erecting rectangular shaped CRCA /die-cast aluminium powder coated housing LED Panel (slim edge-lit) 300X1200mm of suitable for 36 to 40 W with provision for plane front frame with translucent cover fixed to the housing complete.	Each	4046	150	4196
2-5-14	Supplying and erecting LED flexible strip light 5m length upto 25W conforming IP 65 of any colour with driver complete.	Each	2364	150	2514
2-5-15	Supplying LED concealed type foot / step light with aluminium body for indoor application suitable for upto 5 W LED including driver and erecting by making necessary arrangement/recess in wall to make it flush with surface	Each	425	150	575

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-5-16	Making suitable size recess in any type of false ceiling for erection of flush type down lighter and finishing the background to match the original surface upto 20W.	Each	11	60	71
2-5-17	Making suitable size of recess in any type of false ceiling for erection of flush type LED Panel light 600mm x 600mm and finishing the background to match the original ceiling surface.	Each	22	100	122
2-5-18 (NEW)	Supplying LED concealed type foot / step light with aluminium body for Indoor/Outdoor application suitable for upto 7 W-15W LED including driver and erecting by making necessary arrangement/recess in wall to make it flush with surface	Each	2310	150	2460
2-5-19 (NEW)	Supplying and erecting Corridor/Passage light fitting (2 feet) including 9W LED lamp , Comprises of Extruded channel in Plastic Silver gray Color & With same Plastic end cap on provided PVC block / wooden board.	Each	467	60	527
2-5-20 (NEW)	Supplying and erecting Corridor/Passage light fitting (2 feet) including 18W LED lamp , Comprises of Extruded channel in Plastic Silver gray Color & With same Plastic end cap on provided PVC block / wooden board.	Each	713	60	773
2-5-21 (NEW)	Supplying and erecting decorative oval bulk head edge-lit 10W LED luminaire comprising of high brightness LED Fitting on provided PVC block / wooden board.	Each	1304	60	1364
2-5-22 (NEW)	Supplying & erecting T8 LED 18W tube light fitting (4 feet) with polycarbonate housing, heat sink, integrated HF electronic driver complete (including lamp).	Each	595	45	640
2-5-23 (NEW)	Supplying & erecting T8 LED 20W tube light fitting (4 feet) with aluminium housing, heat sink, integrated HF electronic driver complete(including lamp).	Each	940	45	985
2-5-24 (NEW)	Supplying and erecting LED flexible strip light 5m length upto 75W conforming IP 65 of any colour with driver complete.	Each	4760	150	4910
Note:-	1) System efficacy shall not be less than 85 lumens/watt, 2) CRI shall be more than 70. 4) Total Harmonic Distortion Voltage and Current shall be less than 15% 5) Operating range shall be 140V to 270V 6) Power Factor of Luminaire shall be more than 0.95 7) Luminaire and Lamp shall be LM79,LM80 compliant respectively				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	8) Luminaire shall conform respective IS. 9) Luminaire Shall withstand surge protection upto 4 kV 10) Luminaire shall carry minimum three years warranty. 11) Color temperature shall be as requires between 4000K-6500K.				
	<u>2.6 Accessories for Outdoor Fittings (FG-AS)</u>				
2-6-1	Supplying and erecting Street light bracket made from 25 mm. dia 'B' class G.I. Pipe, 0.6m. in length along with pole cap of 300 mm length and 80 mm dia duly welded with provided leads as per specification no. FG-BKT/BPC	Each	388	135	523
2-6-2	Supplying and erecting Street light bracket made from 40 mm. dia 'B' class G.I. Pipe, 0.6m. in length along with pole cap of 300 mm length and 80 mm dia duly welded with provided leads as per specification no. FG-BKT/BPC	Each	454	135	589
2-6-3	Supplying and erecting street light Wall bracket made from 25 mm.dia 'B' class G.I. pipe 1.2 m in total length complete as per specification no. FG-BKT/WB	Each	435	105	540
2-6-4	Supplying and erecting street light Wall bracket made from 40 mm.dia 'B' class G.I. pipe 1.2 m in total length complete as per specification no. FG-BKT/WB	Each	565	105	670
2-6-5	Supplying and erecting Street light bracket for erection of Single fitting made from 40 mm. dia 'B' class G.I. pipe 1.0 m in length along with pole cap of 300 mm length 100 mm dia duly welded as per specification no. FG-BKT/BPC	Each	683	150	833
2-6-6	Supplying and erecting Street light bracket for erection of Double fitting made from 40 mm. dia 'B' class G.I. pipe 1.0 m in length along with pole cap of 300 mm length 100 mm dia duly welded as per specification no. FG-BKT/BPC	Each	1013	150	1163
2-6-7	Supplying and erecting Street light bracket for erection of Single fitting on tubular welded pole with 40 mm.dia 1.0 m long "B" grade G.I. pipe along with pole cap of 125mm dia 600 mm long duly welded as per specification no. FG-BKT/BPC	Each	1197	180	1377
2-6-8	Supplying and erecting Street light bracket for erection of Double fitting on tubular welded pole with 40 mm.dia 1.0 m long "B" grade G.I. pipe along with pole cap of 125mm dia 600 mm long duly welded as per specification no. FG-BKT/BPC	Each	1527	180	1707

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-6-9	Supplying and erecting Street light bracket for erection of side entry fitting on pole with 40 mm. dia. 'B' grade G.I. pipe of required length complete as per specification no. FG-BKT/SLB	m	406	90	496
2-6-10	Supplying and erecting Street light bracket for erection of side entry fitting on pole with 25 mm. dia. 'B' grade G.I. pipe of required length complete as per specification no. FG-BKT/SLB	m	301	90	391
2-6-11	Supplying and erecting Control gear 1x250W for HPSV/MH lamp with all accessories for NON Integral Flood light fittings suitable for complete	Each	3955	118	4073
2-6-12	Supplying and erecting Control gear for NON Integral Flood light fittings suitable for 1x400W HPSV/MH lamp with all accessories complete.	Each	5224	118	5342
2-6-13	Supplying and erecting Control gear for NON Integral Flood light fittings suitable for 2x250W HPSV/MH lamp with all accessories complete.	Each	9312	118	9430
2-6-14	Supplying and erecting Control gear for NON Integral Flood light fittings suitable for 2x400W HPSV/MH lamp with all accessories complete.	Each	12675	118	12793
2-6-15	Supplying and erecting condesor for MV lamp 150W, 230V as specification no. FG-FG/AS7	Each	204	36	240
2-6-16	Supplying and erecting condesor for MV lamp 250W, 230V as specification no. FG-FG/AS7	Each	226	36	262
2-6-17	Supplying and erecting condesor for MV lamp 400W, 230V as specification no. FG-FG/AS7	Each	305	36	341
2-6-18	Supplying and erecting ignitor suitable for 230V HPSV lamp 70/150/250/400W as specification no. FG-FG/AS6	Each	160	36	196
2-6-19	Supplying and erecting electronic ignitor suitable for 230V metalhalide lamp 70/150/250/400W (integral or non integral type luminaries) as specification no. FG-FG/AS6	Each	274	36	310
2-6-20	Supplying and erecting VPIT heavy duty copper wound ballast 230V for 80-150W HPSV/MV/MH as per specification no. FG-FG/AS5.	Each	957	45	1002
2-6-21	Supplying and erecting VPIT compound heavy duty copper wound ballast for 230V for 250W HPSV/MV/MH as per specification no. FG-FG/AS5.	Each	1915	51	1966

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-6-22	Supplying and erecting VPIT heavy duty copper wound ballast for 230V for 400W HPSV/MV/MH as per specification no. FG-FG/AS4.2.7 Decorative Outdoor Fitting (FG-ODF)	Each	2534	51	2585
	<u>2.7 Decorative Outdoor Fittings (FG-ODF)</u>				
2-7-1	Supplying and erecting gate/garden light fitting with 200mm dia.glass bowl suitable for upto 12W LED Lamp on provided pipe as perspecification No. FG-ODF/GLT	Each	384	98	482
2-7-2	Supplying and erecting gate/garden light fitting with 300mm dia.glass bowl suitable for upto 12W LED Lamp on provided pipe as perspecification No. FG-ODF/GLT	Each	1010	98	1108
2-7-3	Supplying & erecting integral post top lantern fixtures(mushroomtype) suitable for LED lamp upto 12 W consisting of clear acrylic top cover,cast aluminium pole cap complete with accessories on provided pole /bracket as per specification no. FG-ODF/PTL	Each	2060	98	2158
2-7-4	Supplying & erecting integral post top lantern fixtures (globe type) suitable for LED lamp upto 12 W consisting of asthetic round clear acrylictopy cover, cast aluminium pole cap on provided pole /bracket as perspecification no. FG-ODF/PTL (NEW)	Each	2097	98	2195
2-7-5	Supplying & erecting integral post top lantern fixtures (light house type) suitable upto LED 18 W Lamp consisting of combination of spunaluminium canopy & clear acrylic top cover, cast aluminium polecap on provided pole/ bracket as per specification no. FG-ODF/PTL (NEW)	Each	2462	98	2560
2-7-6	Deleted				
2-7-7	Deleted				
2-7-8	Deleted				
2-7-9	Deleted				
	<u>2.8 Street/Flood Light Fittings (FG-ODF)</u>				
2-8-1	Deleted				
2-8-2	Deleted				
2-8-3	Deleted				
2-8-4	Deleted				
2-8-5	Deleted				
2-8-6	Deleted				
2-8-7	Deleted				
2-8-8	Deleted				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-8-9	Deleted				
2-8-10	Deleted				
2-8-11	Deleted				
2-8-12	Deleted				
2-8-13	Supplying and erecting street light fitting suitable for 70W H.P.S.V.lamp with accessories complete on provided bracket as perspecification no. FG-ODF/GSL	Each	2203	118	2321
2-8-14	Supplying and erecting street light fitting suitable for 150W H.P.S.V.lamp complete with accessories on provided bracket as perspecification no. FG-ODF/GSL	Each	2581	118	2699
2-8-15	Supplying and erecting street light fitting suitable for 250W H.P.S.V.lamp complete with accessories on provided bracket as perspecification no. FG-ODF/GSL	Each	3429	146	3575
2-8-16	Supplying and erecting street light fitting suitable for 400W H.P.S.V.lamp complete with accessories on provided bracket as perspecification no. FG-ODF/GSL	Each	5139	146	5285
2-8-17	Supplying and erecting street light fitting suitable for 70W metal halide lamp complete with accessories on provided bracket as perspecification no. FG-ODF/GSL	Each	2819	118	2937
2-8-18	Supplying and erecting street light fitting suitable for 150W metal halide lamp complete with accessories on provided bracket as perspecification no. FG-ODF/GSL	Each	3687	118	3805
2-8-19	Supplying and erecting street light fitting suitable for 250W metalhalide lamp complete with accessories on provided bracket as perspecification no. FG-ODF/GSL	Each	4597	146	4743
2-8-20	Supplying and erecting street light fitting suitable for 400W metal halide lamp complete with accessories on provided bracket as perspecification no. FG-ODF/GSL	Each	8284	146	8430
2-8-21	Supplying and erecting flood light luminaries suitable for 70WH.P.S.V. lamp complete with accessories on provided bracket as perspecification no. FG-ODF/GSL	Each	3436	118	3554
2-8-22	Supplying and erecting flood light luminaries suitable for 150W H.P.S.V. lamp complete with accessories on provided bracket as perspecification no. FG-ODF/GFL	Each	5572	118	5690
2-8-23	Supplying and erecting flood light luminaries suitable for 250W H.P.S.V. lamp complete with accessories on provided bracket as perspecification no. FG-ODF/GFL	Each	5846	146	5992

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-8-24	Supplying and erecting flood light luminaries suitable for 400W H.P.S.V. lamp complete with accessories on provided bracket as per specification no. FG-ODF/GFL	Each	5920	146	6066
2-8-25	Supplying and erecting asymmetrical beam integral flood light luminaries suitable for 70W metal halide lamp complete with accessories on provided bracket as per specification no. FG-ODF/GFL	Each	3141	118	3259
2-8-26	Supplying and erecting asymmetrical beam integral flood light luminaries suitable for 150W metal halide lamp complete with accessories on provided bracket as per specification no. FG-ODF/GFL	Each	3588	118	3706
2-8-27	Supplying and erecting asymmetrical beam integral flood light accessories luminaries suitable for 250W metal halide lamp complete with accessories on provided bracket as per specification no. FG-ODF/GFL	Each	5873	146	6019
2-8-28	Supplying and erecting asymmetrical beam integral flood light luminaries suitable for 400W metal halide lamp complete with accessories on provided bracket as per specification no. FG-ODF/GFL	Each	5942	146	6088
2-8-29	Deleted				
2-8-30	Deleted				
2-8-31	Supplying & erecting non integral symmetrical flood light with wide beam reflector luminaries suitable for 1x250W HPSV/MH lamp on provided bracket as per specification no. FG-ODF/HML	Each	3165	118	3283
2-8-32	Supplying & erecting non integral symmetrical flood light with wide beam reflector luminaries suitable for 1x400W HPSV/MH lamp on provided bracket as per specification no. FG-ODF/HML	Each	3165	118	3283
2-8-33	Supplying & erecting non integral heavy duty flood light with symmetric circular narrow beam reflector luminaries suitable for 1x250W HPSV/MH lamp on provided bracket as per specification no. FG-ODF/HML	Each	4336	118	4454
2-8-34	Supplying & erecting non integral heavy duty flood light with symmetric circular narrow beam reflector luminaries suitable for 1x400W HPSV/MH lamp on provided bracket as per specification no. FG-ODF/HML	Each	4336	118	4454
2-8-35	Supplying & erecting non integral symmetric wide beam flood light luminaries suitable for 2x250W HPSV/MH lamp on provided bracket as per specification no. FG-ODF/HML	Each	5248	146	5394

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-8-36	Supplying & erecting non integral symmetric wide beam flood light luminaries suitable for 2x400W HPSV/MH lamp on provided bracketas per specification no. FG-ODF/HML	Each	5248	146	5394
2-8-37	Erecting the departmentally supplied W.P. /LED/T-5/T-8/LED street light fitting and marking / painting the Sr. No. and date of erection by best quality enamel paint.	Each	12	75	87
2-8-38	Erecting Deptt. supplied H.P.S.V/ M.H./ LED street light/ LED Flood light Fitting upto 150W & marking / painting Sr. No. & date of erection by best quality enamel paint.	Each	12	118	130
2-8-39	Erecting Deptt. supplied H.P.S.V/ M.H./LED street light/Flood light Fitting of 250 to 400W & marking/ painting Sr. No. & date of erection by best quality enamel paint	Each	12	146	158
Note for 2.7 & 2.8:-	For above items rates of lamps or tubes shall be added separately.				
	<u>2.9 LED Outdoor Fittings (FG-ODF/LED)</u>				
2-9-1	Supplying and erecting LED street light fitting 12 to 18 W , with PF > 0.95 class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete as per specification No FG-ODF/FLS-2	Each	1823	163	1986
2-9-2	Supplying and erecting LED Street light fitting suitable for 20 to 25W , with PF > 0.95 class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete as per specification No FG-ODF/FLS-2.	Each	2290	163	2453
2-9-3	Supplying and erecting LED street light fitting suitable above 26W to 36W lamp , including lamp, with PF > 0.95 class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete as per specification No FG-ODF/FLS2	Each	2757	163	2920
2-9-4	Supplying and erecting LED Street light fitting suitable for above 40W to 48W lamp , including lamp, with PF > 0.95 class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No . FG-ODF/FLS2	Each	4248	191	4439

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-9-5	Supplying and erecting LED street light fitting suitable for 60W lamp, including lamp , with PF > 0.95 class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete as per specification No FG-ODF/FLS-2 .	Each	5724	191	5915
2-9-6	Supplying and erecting LED street light fitting suitable for above 70W- 75 lamp , including lamp, with PF > 0.95 class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No FG-ODF/FLS2	Each	6360	191	6551
2-9-7	Supplying and erecting LED street light fitting suitable for above75 - 90W lamp , including lamp, with PF > 0.95 class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No. FG-ODF/FLS2	Each	8412	236	8648
2-9-8	Supplying and erecting LED street light fitting 100W , including lamp, with PF > 0.95 class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No FG-ODF/FLS-2	Each	9027	236	9263
2-9-9	Supplying and erecting LED street light fitting 120 W , including lamp, with PF > 0.95 class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No FG-ODF/FLS-2 .	Each	11049	236	11285
2-9-10	Supplying and erecting LED street light fitting 150 W , including lamp, with PF > 0.95 class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No FG-ODF/FLS-2 .	Each	18849	236	19085
2-9-11	Supplying and erecting LED street light fitting suitable for 160 -170 W , including lamp, with PF > 0.95 class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No FG-ODF/FLS-2	Each	19557	236	19793
2-9-12	Supplying and erecting LED Flood light fitting of 30-40W , including lamp, with PF > 0.95, class IP 65 and above class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium completeper specification No FG-ODF/FLS-2	Each	2811	163	2974

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-9-13	Supplying and erecting LED Flood light fitting of 50W , including lamp, with PF > 0.95, class IP 65 and above class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No FG-ODF/FLS-2	Each	4596	163	4759
2-9-14	Supplying and erecting LED Flood light fitting of 70- 80W , including lamp, with PF > 0.95, class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No FG-ODF/FLS-2	Each	8367	191	8558
2-9-15	Supplying and erecting LED Flood light fitting of 90-100W , including lamp, with PF > 0.95, class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No FG-ODF/FLS-2	Each	9725	191	9916
2-9-16	Supplying and erecting LED Flood light fitting of 120W , including lamp, with PF > 0.95, class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No FG-ODF/FLS-2	Each	14579	191	14770
2-9-17	Supplying and erecting LED Flood light fitting of 150W , including lamp, with PF > 0.95, class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No FG-ODF/FLS-2	Each	17261	191	17452
2-9-18	Supplying and erecting LED Flood light fitting of 200W , including lamp, with PF > 0.95, class IP 65 and above Housing of pressure die cast alluminium alloy and heat sink extruded alluminium complete per specification No FG-ODF/FLS-2	Each	22523	191	22714
2-9-19 (NEW)	Supplying and erecting Recess mounted 20W LED wall washers , tilted 70° outwards and swivels 360° to offer best illumination on the wall with any colour with driver complete. (Including Compatible Driver)	Each	3835	144	3979
2-9-20 (NEW)	Supplying and erecting Recess mounted 30W LED wall washers , tilted 70° outwards and swivels 360° to offer best illumination on the wall with any colour with driver complete. (Including Compatible Driver)	Each	5312	144	5456
2-9-21 (NEW)	Supplying & erecting 12W LED PAR (30 Lamp E-27 Base, SPOTO SERIES) lights by making necessary arrangement/recess in wall to make it flush with surface.	Each	1797	54	1851

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-9-22 (NEW)	supplying & erecting 20W LED PAR (30 Lamp E-27 Base, SPOTO series) lights by making necessary arrangement/recess in wall to make it flush with surface.	Each	5581	54	5635
2-9-23 (NEW)	Supplying & erecting 15 LED SERIES PAR lights by making necessary arrangement/recess in wall to make it flush with surface.	Each	2737	54	2791
2-9-24 (NEW)	Supplying and erecting Cylindrical shaped Integral decorative with high power 9W LED bollard with opal acrylic diffuser and IP65 protection on provided foundation.(NEW) upto 1000MM	Each	3835	109	3944
2-9-25 (NEW)	Supplying and erecting Mushroom shaped integral 9W LED decorative bollard with IP65 protection on provided foundation.(NEW) upto 680MM	Each	5705	109	5814
2-9-26 (NEW)	Supplying and erecting 40W LED post top made in cast aluminium spigot housing with decorative clear opal acrylic diffuser and IP65 Protection on provided pole/ bracket.	Each	6830	109	6939
Note:-	<p>1) System efficacy shall not be less than 85 lumens/watt,</p> <p>2) CRI shall be more than 70.</p> <p>3) Colour Temperature shall be as required between 4500 k - 6500 K</p> <p>4) Total Harmonic Distortion Voltage and Current shall be less than 10%</p> <p>5) Operating range shall be 140V to 270V</p> <p>6) Power Factor of Luminaire shall be more than 0.95</p> <p>7) Luminaire and Lamp shall be LM79,LM80 compliant respectively</p> <p>8) Luminaire Shall withstand surge protection upto 4 kV</p> <p>9) Luminaire shall have facility to shift on standby mode in case voltage rises above operating range.</p> <p>10) Luminaire shall carry minimum three years warranty.</p> <p>11)There shall be provision for termination of earth connection.</p>				
	<u>2.10 Outdoor LED Fittings (FG-ODF/LED)</u>				
2-10-1	Deleted				
2-10-2	Deleted				
2-10-3	Deleted				
2-10-4	Deleted				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-10-5 (NEW)	Supplying and erecting highbay LED fitting IP 65 with lamp 80W , PF >0.95 of approved make and dulyconnecting complete as per specification no. FG-ODF/LED	Each	12197	189	12386
2-10-6 (NEW)	Supplying and erecting highbay LED fitting IP 65 with lamp 120W , PF >0.95 of approved make and dulyconnecting complete as per specification no. FG-ODF/LED	Each	13716	189	13905
2-10-7 (NEW)	Supplying and erecting highbay LED fitting IP 65 with lamp 150W , PF >0.95 of approved make and dulyconnecting complete as per specification no. FG-ODF/LED	Each	18237	189	18426
<u>2.11 Aviation Light Fittings</u>					
2-11-1	Supplying & erecting aviation obstruction light consisting of yellow painted die-cast aluminium alloy housing with Integral LED aviation light comprising of aluminium housing with polycarbonate enclosure complete.	Each	4669	98	4767
2-11-2	Deleted				
<u>2.12 Accessories for Fans (FG-FN)</u>					
2-12-1	Supplying and erecting condenser 2.5 micro farad for ceiling fan	Each	35	34	69
2-12-2	Supplying & fixing Anchor type fastener Fan hook , with 2 Nos of 10mm dia x 75 mm long with necessary materials for Ceiling Fan.	Each	74	29	103
2-12-3	Supplying and erecting fan clamp of 30 x 5 mm. M.S. flat of required length and 10 mm. M.S. bolt and nuts erected with necessary hook of 10 mm. M.S. round bar and painted.	Each	166	28	194
2-12-4	Supplying and erecting Fan hook of 10 mm. M.S. round bar grouted in RCC slab with making the site as original.	Each	74	43	117
2-12-5	Supplying and erecting fan hook box of 10 mm M.S. round bar bounded to the R.C.C. bars upto 50 mm length each side and pierced through a 16 S.W.G. thick aluminium/M.S. Bowl 100 mm dia. or equivalent square size and having depth upto 75 mm complete erected with duly painted by one coat of red oxide paint and two coats of paint erected in position and without any leakage of slurry of cement concrete on either side of the box and positioned to the bottom level of the slab.	Each	123	29	152
2-12-6	Supplying and erecting 'B' grade G.I. pipe/M.S. pipe down rod duly painted for fan complete erected with PVC three core flexible cable 1 sq. mm copper PVC wire.	m	173	43	216

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-12-7	Erection of departmentally supplied ceiling fan with necessary materials, and marking / painting the Sr. No. and date of erection by best quality enamel paint.	Each	12	90	102
2-12-8	Erection of departmentally supplied Exhaust fan with necessary materials, and marking / painting the Sr. No. and date of erection by best quality enamel paint.	Each	50	135	185
2-12-9	Deleted				
2-12-10	Supplying and erecting electronic type step regulator for ceiling fan 600/ 900/ 1200/ 1400 mm. sweep, complete erected on provided switch board.	Each	210	14	224
2-12-11	Providing recess in brick wall suitable for erection of exhaust fan up to 450mm sweep complete with grouting of nut, bolts, plaster in hand colour washing to match the colour of the wall for the wall thickness of 150 mm	Each	100	214	314
2-12-12	Providing recess in brick wall suitable for erection of exhaust fan up to 450mm. sweep complete with grouting of nut, bolts, plastering and colour washing to match the colour of the wall for the wall thickness of 225 mm	Each	117	257	374
2-12-13	Providing recess in brick wall suitable for erection of exhaust fan up to 450mm. sweep complete with grouting of nut, bolts, plastering and colour washing to match the colour of the wall for the wall thickness of 375 mm.	Each	153	300	453
2-12-14	Providing recess in stone wall suitable for erection of exhaust fan up to 450mm sweep complete with grouting of nut, bolts, plastering and colour washing to match the colour of the wall.	Each	164	514	678
2-12-15	Supplying & erecting 22 guage G.I sheet metal CAWL sector shaped with 25 mm x 25mm x 3mm angle iron frame, metal mesh to avoid birdsentry with necessary material, suitable for exhaust fan of 300 mm as per specification no FG-FAS/MSC	Each	1033	85	1118
2-12-16	Supplying & erecting 22 guage G.I sheet metal CAWL sector shaped with 25 mm x 25mm x 3mm angle iron frame, metal mesh to avoid birdsentry with necessary material, suitable for exhaust fan of 400 mm as per specification no FG-FAS/MSC	Each	1132	86	1218

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-12-17	Supplying & erecting 22 guage G.I sheet metal CAWL sector shapedwith 25 mm x 25mm x 3mm angle iron frame, metal mesh to avoid birdsentry with necessary material, suitable for exhaust fan of 450 mm asper specification no FG-FAS/MSC	Each	1205	86	1291
2-12-18	Supplying & erecting 20 guage G.I sheet metal CAWL rectangular /round shaped with 25 mm x 25mm x 3mm angle iron frame, metalmesh to avoid birds entry with necessary material, suitable for exhaustfan of 300 mm as per specification no FG-FAS/MSC	Each	1086	63	1149
2-12-19	Supplying & erecting 20 guage G.I sheet metal CAWL rectangular /round shaped with 25 mm x 25mm x 3mm angle iron frame, metalmesh to avoid birds entry with necessary material, suitable for exhaustfan of 400 mm as per specification no FG-FAS/MSC	Each	1353	63	1416
2-12-20	Supplying & erecting 20 guage G.I sheet metal CAWL rectangular /round shaped with 25 mm x 25mm x 3mm angle iron frame, metalmesh to avoid birds entry with necessary material, suitable for exhaustfan of 450 mm as per specification no FG-FAS/MSC	Each	1414	63	1477
<u>2.13 Fans (FG-FN)</u>					
2-13-1	Supplying and erecting regular/ standard model Ceiling fan of 600mm. sweep complete erected in position as per specifcation no.	Each	1805	90	1895
2-13-2	Supplying and erecting regular/ standard model Ceiling fan of 900 /1050 mm. sweep complete erected in position as per specification no.	Each	1791	90	1881
2-13-3	Supplying and erecting regular/ standard model Ceiling fan of 1200mm. sweep complete erected in position as per specification no. FG-	Each	1820	90	1910
2-13-4	Supplying and erecting regular/ standard model Ceiling fan of 1400mm. sweep complete erected in position as per specification no. FG-	Each	1956	90	2046
2-13-5	Providing and erecting bracket fan 400 mm. sweep A. C. 230 volts 50 cycles 1350 R.P.M. Oscillating type, plastic or metal blades chromeplated guard with regulator and moisture proof treatment to winding andwith 'E' class insulation and marking Sr. No. and date of erection.	Each	2099	60	2159

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-13-6	Providing and erecting air circulator 450 mm. sweep oscillating type, wall mounting 1440 RPM without speed regulator, overheat protection unit, totally enclosed, flame proof motor suitable for 230/250 Volts single phase, 50 cycles A.C. supply, with one metre of 3 core lead wire and with moisture proof treatment to winding and with 'E' class insulation and marking Sr. No. and date of erection.	Each	5095	135	5230
2-13-7	Providing and erecting air circulator 600 mm. sweep oscillating type, wall mounting 1440 RPM without speed regulator, overheat protection unit, totally enclosed, flame proof motor suitable for 230/250 Volts single phase, 50 cycles A.C. supply, core lead wire and with moisture proof treatment to winding and with 'E' class insulation and marking Sr. No. and date of erection.	Each	6049	180	6229
2-13-8	Supplying Pedestal fan 400 mm. 230 Volts 50 cycles oscillating type complete with guard and regulator 3 mtrs. of flexible wire and hand shield type 3 pin plug top and marking Sr. No. and date of erection.	Each	2385	0	2385
2-13-9	Supplying pedestal type air circulator 450 mm. sweep oscillating type suitable to work on 230 Volts 50 cycles 1440 RPM with speed regulator, overhead protection unit, totally enclosed, flame proof motor with additional 3 core wire, 5 metre length and Hand Shield type 3 pin 5A. plug top complete with moisture proof treatment and 'E' class insulation and marking Sr. No. and date of erection.	Each	5255	0	5255
2-13-10	Supplying pedestal type air circulator 600 mm. sweep oscillating type suitable to work on 230 Volts 50 cycles 1440 RPM with speed regulator, overhead protection unit, totally enclosed, flame proof motor with additional 3 core wire, 5 metre length and Hand Shield type 3 pin 6A. plug top complete with moisture proof treatment and 'E' class insulation and marking Sr. No. and date of erection.	Each	7979	0	7979
2-13-11	Supplying Table fan of A.C. 230 V. 50 cycles 400 mm. oscillating type complete with 2 mtrs. of 3 core flexible wire and Hand shield type 3 pin plug top and marking Sr. No. and date of erection	Each	1892	0	1892
2-13-12	Supplying and erecting cabin fan of A.C. 230 V. 50 cycles 250 mm. /300 mm. sweep complete with necessary brackets for fixing cabin fans, wire etc and marking Sr. No. and date of erection.	Each	1667	45	1712

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
2-13-13	Supplying and erecting cabin fan of A.C. 230 V. 50 cycles 400 mm.sweep complete with necessary brackets for fixing cabin fans, wire etc and marking Sr. No. and date of erection.	Each	1868	45	1913
2-13-14	Supplying and erecting fresh air cum Exhaust fan of light duty 250 V A.C. 50 cycles 300mm. 1400 RPM rust proof body & blades, wire mesh, duly erected in an approved manner and marking Sr. No. And date of erection.	Each	1445	135	1580
2-13-15	Supplying and erecting fresh air cum Exhaust fan of light duty 250 V A.C. 50 cycles 225mm. 1400 RPM rust proof body & blades, wire mesh, duly erected in an approved manner and marking Sr. No. And date of erection.	Each	1344	90	1434
2-13-16	Supplying and erecting Exhaust fan medium duty 230 V A.C. 50 cycles 225 mm. 1400 RPM with condensor complete erected in position with necessary materials. Fan motor with moisture proof treatment and 'E' class insulation and marking Sr. No. & date of erection.	Each	1781	120	1901
2-13-17	Supplying and erecting Exhaust fan heavy duty 230 V, A.C. 50 cycles 375/380 mm. 900 RPM complete erected in position as per specification no. FG-FN/EXF	Each	3543	135	3678
2-13-18	Supplying and erecting Exhaust fan heavy duty 230 V A.C. 50 cycles 375/380 mm. 1400 RPM complete erected in position as per specification no. FG-FN/EXF	Each	3593	135	3728
2-13-19	Supplying and erecting Exhaust fan heavy duty 230 V A.C. 50 cycles 450 mm. 1400 RPM complete erected in position as per specification no. FG-FN/EXF	Each	4976	135	5111
2-13-20	Supplying and erecting Exhaust fan heavy duty 230 V A.C. 50 cycles 450 mm. 900 RPM complete erected in position as per specification no. FG-FN/EXF	Each	4538	135	4673
2-13-21	Supplying and erecting Exhaust fan heavy duty 440 V A.C. 50 cycles 900 RPM 375/380 mm complete erected in position as per specification no. FG-FN/EXF	Each	3768	135	3903
2-13-22	Supplying and erecting Five Star Rated Energy Saving Ceiling Fan 230 V A.C. 50 cycles 1200 mm complete erected in position as per specification no. FG-FN/CF	Each	1904	90	1994
2-13-23 (New)	Supplying and erecting Modern finished blades with unique double bend angle, double ball bearings with energy efficient Decorative Ceiling Fan complete erected in position as per specification no. FG-FN/CF(Decorative)	Each	3208	99	3307

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>2.14 Dismantling</u>					
2-14-1	Dismantling of existing fluorescent fittings of any type & size.	Each	0	15	15
2-14-2	Dismantling the existing W.T.fluorescent fitting / S.V./ M.V/MH.lamp /LED fitting from wall with brackets and making the site as original complete.	Each	0	45	45
2-14-3	Dismantling the existing W.T. fluorescent fitting/ S.V./ M.V/Mhlamp /LED fitting from pole with brackets complete.	Each	0	105	105
2-14-4	Dismantling the existing ceiling fan/exhaust fan/cabin fan/bracket fan complete with accessories, G.I. down rod, frame etc. and making the site clear.	Each	0	36	36
Note:-	Above rates are inclusive of transportation to the storage place as directed by sectional officer				

Chapter 3

APPLIANCES (AP)

3.1 Water Heaters	(AP-WH)
3.2 Air Conditioners	(AP-AC)
3.3 Water Coolers, Refrigerators	(AP-WC)
3.4 Air Coolers	(AP-ACR)
3.5 Water Purifiers	
3.6 Inverter	(AP-INV)
3.7 On line UPS	(AP-UPS)
3.8 Batteries for Inverter & UPS	
3.9 Voltage Stabilizers	
3.10 Dismantling	
3.11 Accessories for AC & Water cooler	(AP-SER)

Chapter 3: APPLIANCES (AP)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3.1 Water Heaters (AP-WH)					
3-1-1	Supplying and erecting storage type Horizontal / vertical water heater 15 Liters capacity with BEE 5 STAR RATING high impact resistance Engineering plastic body on wall / loft as per specification No. AP-WH/STWH	Each	8042	343	8385
3-1-2	Supplying and erecting storage / pressure type Horizontal / vertical water heater 25 Liters of mild steel body , on wall / loft as per specification No. AP-WH/STWH	Each	9187	343	9530
3-1-3	Supplying and erecting storage type Horizontal / vertical water heater 25 Liters capacity with BEE 5 STAR RATING high impact resistance Engineering plastic body on wall / loft as per specification no. AP-WH/STWH	Each	11750	343	12093
3-1-4	Supplying and erecting storage/ pressure type vertical / horizontal water heater 35 Liters of mild steel body on wall / loft as per specification No. AP-WH/STWH	Each	11593	388	11981
3-1-5	Supplying and erecting storage type Horizontal / vertical water heater 35 Liters capacity with BEE 5 STAR RATING high impact resistance Engineering plastic body on wall / loft as per specification no. AP-WH/STWH	Each	12931	388	13319
3-1-6	Supplying and erecting storage/ pressure type vertical / horizontal water heater 50 Liters capacity of mild steel body on wall / loft as per specification No. AP-WH/STWH	Each	13201	388	13589
3-1-7	Supplying and erecting storage type Horizontal / vertical water heater 50 Liters capacity with BEE 5 STAR RATING high impact resistance Engineering plastic body on wall / loft as per specification no. AP-WH/STWH	Each	16410	388	16798
3-1-8	Supplying and erecting ISI mark midget type 3.0 Ltr instant type water heater of ABS plastic body 3 kW complying IS3412 of 1994 heating element 230/250 Volts 50 Cycle A.C. supply with inlet and outlet, thermostatic control and thermal cutoff with 3 core PVC flexible wire leads duly tested and marking Sr. No. and date of erection.	Each	4002	74	4076
3-1-9	Supplying and erecting Chromium plated heavy duty brass stop cock for inlet pipe of water heater (15 mm. dia).	Each	166	37	203
3-1-10	Supplying & erecting 15 mm brass non return valve for inlet pipe of storage water heater.	Each	238	37	275
3-1-11	Supplying & erecting dead weight pressure releasing valve for storage water heater with necessary materials.	Each	413	74	487

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3-1-12	Supplying & erecting vacuum relief valve for storage water heater with necessary materials.	Each	132	74	206
3-1-13	Providing fiber reinforced PVC flexible pipe upto 1m length with brass locking nuts and washers and clips at both ends suitable for hot water complete erected in an approved manner.	Each	160	37	197
3-1-14	Erecting departmentally supplied water heater of 25 ltr capacity with wall fasteners, inlet & outlet pipes, NRV, etc. and marking Sr No. and date of erection.	Each	135	343	478
3-1-15	Erecting departmentally supplied water heater of 35/ 50 ltr capacity with wall fasteners, inlet & outlet pipes, NRV, etc. and marking Sr No. and date of erection.	Each	188	388	576
3-1-16	Supplying and erecting ISI mark heating element 2 / 3 kW suitable for water heater/ midget of any make any capacity.	Each	831	171	1002
3-1-17	Supplying and erecting ISI mark thermostat suitable for water heater / midget of any make, any capacity.	Each	360	49	409
3-1-18	Dismantling unserviceable storage type water heater from site to workshop & back after duly repaired & Re-erecting the Repaired storage water heater in position with necessary material complete with To & Fro transportation.	Each	245	138	383
3.2 Air Conditioners (AP-AC)					
3-2-1	Supplying and erecting window model mounted type room Air - conditioner 3 star 230/250V 50 cycles single phase A.C.supply 1 TR capacity complete with gas R410A/R32 at position in provided recess with wooden frame as per specification No. AP-AC/WAC	Each	30500	1440	31940
3-2-2	Supplying and erecting window model mounted type room Air - conditioner 3 star 230/250 V 50 cycles single phase A.C.supply 1.5 TR capacity complete with gas R410A/R32 at position in provided recess with wooden frame as per specification No. AP-AC/WAC	Each	36338	1440	37778
3-2-3	Supplying and erecting window model mounted type room Air - conditioner 5 star 230/250 V 50 cycles single phase A.C.supply 1.5 TR capacity complete with gas R410A/R32 at position in provided recess with wooden frame as per specification No. AP-AC/WAC	Each	40147	1497	41644

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3-2-4	Supplying and erecting window model mounted type room Air-Conditioner 3 star 230/250 V 50 cycles single phase A.C. supply 2 TR capacity complete with gas R410A/R32 at position in provided recess with wooden frame as per specification No. AP-AC/WAC	Each	40416	1440	41856
3-2-5	Providing modifications to the existing window for erection of window room air conditioner in position with use of teakwood, grill, aluminum channel, glass as per requirement and filling the gaps to maintain air tightness.	Each	674	620	1294
3-2-6 (New)	Supplying and erecting split type room Airconditioning unit 2 TR 3 star capacity 250V, 50 cycles, A.C. supply having 1 No of air handling unit hi-wall mounting type complete with Refrigerent R410 A/R32 and COPPER CONDENSOR at position as per specification no. AP-AC/SAC	Each	58899	2343	61242
3-2-7 (New)	Supplying and erecting split type room Airconditioning unit 2 TR 5 star capacity 250V, 50 cycles, A.C. supply having 1 No of air handling unit hi-wall mounting type complete with Refrigerent R410 A /R32 and COPPER CONDENSOR at position as per specification no. AP-AC/SAC	Each	72219	2592	74811
3-2-8 (New)	Supplying and erecting split type room Airconditioning unit 1.5 TR 3 star capacity 250V, 50 cycles, A.C. supply having 1 No of air handling unit hiwall / floor mounting type complete with Refrigerent R410 A/R32 and COPPER CONDENSOR at position as per specification no. AP-AC/SAC	Each	46616	2343	48959
3-2-9 (New)	Supplying and erecting split type room Airconditioning unit 1.5 TR 5 star capacity 250V, 50 cycles, A.C. supply having 1 No of air handling unit hiwall / floor mounting type complete with Refrigerent R410 A/R32 and COPPER CONDENSOR at position as per specification no. AP-AC/SAC	Each	53277	2343	55620
3-2-10 (New)	Supplying and erecting split type room Airconditioning unit 1 TR 3 star capacity 250V, 50 cycles, A.C. supply having 1 No of air handling unit hi-wall / floor mounting type complete with Refrigerent R410 A/R32 and COPPER CONDENSOR at position as per specification no. AP-AC/SAC	Each	39892	1892	41784

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3-2-11 (New)	Supplying and erecting split type room Airconditioning unit 1 TR 5 star capacity 250V, 50 cycles, A.C. supply having 1 No of air handling unit hi-wall / floor mounting type complete with Refrigerent R410 A/R32 and COPPER CONDENSOR at position as per specification no. AP-AC/SAC	Each	40635	1892	42527
3-2-12	Providing and pesting superior quality Sun control film on glass to acieve better cooling effect having 1.5 / 2 mil thickness, ultra violet transmittance less than 2% and solar heat rejection 78% in approved manner.	m2	1031	78	1109
3-2-13 (New)	Supplying and erecting split type room Airconditioning unit 2.5 TR capacity with R410A/R32 gas 230/ 415V, 50 cycles, A.C. supply having 1 No of air handling unit (Mega spilt) Hi-wall mounting type complete at position as per specification No. AP-AC/SAC	Each	68467	2592	71059
3-2-14 (New)	Supplying and erecting split type room Airconditioning unit 3TR capacity with R410A/R32 gas 415 V, 50 cycles, A.C. supply having 1 No of air handling unit (Mega spilt) mounting type complete at position as per specification No. AP-AC/SAC	Each	79488	3131	82619
3-2-15	Supplying & erecting copper pipe suitable for refrigeration system having 22 guage thickness and inner dia / size 12 mm complete.	m	249	29	278
3-2-16	Supplying & erecting copper pipe suitable for refrigeration system having 22 guage thickness and inner dia / size 16 mm complete.	m	337	29	366
3-2-17	Supplying & erecting copper pipe suitable for refrigeration system having 22 guage thickness and inner dia / size 22 mm complete.	m	605	29	634
3-2-18	Supplying & erecting copper pipe suitable for refrigeration system having 22 guage thickness and inner dia / size 32 mm complete.	m	882	29	911
3-2-19	Supplying & erecting copper pipe suitable for refrigeration system having 22 guage thickness and inner dia / size 35 mm complete.	m	1102	29	1131
3-2-20	Supplying & erecting copper pipe suitable for refrigeration system having 22 guage thickness and inner dia / size 42 mm Complete.	m	1311	29	1340
Notes:-	<p>Note 1) For copper pipe nitrile rubber insulation refer to chapter 4.2</p> <p>2) For drain piping refer rates of PVC pipes from chapter no. 1.</p> <p>3) As per BEE guidelines Appliances shall be used of star rating.</p>				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	4) The above rates for split AC are inclusive of refrigerant piping upto 6 meter length				
3-2-21 (New)	Supplying & erecting cassate type split room airconditioning unit 1.5 TR capacity 230/250 V ,50 cycles ,AC supply having 1 No air handling unit unit false ceiling mounting type complete with gas R32/R410A at position as per specification without copper piping and drainage pipe.	Each	89562	3800	93362
3-2-22 (New)	Supplying & erecting cassate type split room airconditioning unit 2 TR capacity 230/250 V ,50 cycles ,AC supply having 1 No air handling unit unit false ceiling mounting type complete with gas R32/R410A at position as per specification without copper piping and drainage pipe.	Each	103123	3800	106923
3-2-23 (New)	Supplying & erecting cassate type split room airconditioning unit 3 TR capacity 230/250 V ,50 cycles ,AC supply having 1 No air handling unit unit false ceiling mounting type complete with gas R32/R410A at position as per specification without copper piping and drainage pipe.	Each	143957	3800	147757
3-2-24 (New)	Supplying & erecting cassate type split room airconditioning unit 3.5 TR capacity 230/250 V ,50 cycles ,AC supply having 1 No air handling unit unit false ceiling mounting type complete with gas R32/R410A at position as per specification without copper piping and drainage pipe.	Each	156314	3800	160114
3-2-25 (New)	Supplying & erecting cassate type split room airconditioning unit 4 TR capacity 230/250 V ,50 cycles ,AC supply having 1 No air handling unit unit false ceiling mounting type complete with gas R32/R410A at position as per specification without copper piping and drainage pipe.	Each	172688	3800	176488
3-2-26 (New)	Suppling ,instslling , testing and commissioning Tower type Room AC unit of 2.5 Ton capacity suitable to operate on 230/415 V , 50 CYCLES ac supply having 1 no AHU and 1 no cabinet type Floor mounting type condensing unit with gas R32/R410A with anticorrossive Fins, copper Condensor , Dust fliters Hydrophilic Evaporator Fins Powder coated outer body ,with scroll / rotary compressor connected with provided refrigerent pipes , electric cables and drain pipe.	Each	83591	3800	87391

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3-2-27 (New)	Suppling ,instslling , testing and commissioning Tower type Room AC unit of 3.5 Ton capacity suitable to operate on 230/415 V , 50 CYCLES ac supply having 1 no AHU and 1 no cabinet type Floor mounting type condensing unit with gas R32/R410A with anticorrosive Fins, copper Condensor , Dust fliters Hydrophilic Evaporator Fins Powder coated outer body ,with scroll / rotary compressor connected with provided refrigerent pipes , electric cables and drain pipe.	EACH	101411	3800	105211
3-2-28 (New)	Suppling ,instslling , testing and commissioning Tower type Room AC unit of 4.5 Ton capacity suitable to operate on 230/415 V , 50 CYCLES ac supply having 1 no AHU and 1 no cabinet type Floor mounting type condensing unit with gas R32/R410A with anticorrosive Fins, copper Condensor , Dust fliters Hydrophilic Evaporator Fins Powder coated outer body ,with scroll / rotary compressor connected with provided refrigerent pipes , electric cables and drain pipe.	Each	124859	3800	128659
3.3 Water Coolers & Refrigerators (AP-WC)					
3-3-1	Supplying refrigerator domestic type approved make 165 to 185 liters storage capacity, 3 star suitable for operation on 230/250 Volts 50 cycles complete with automatic temperature control conforming to IS specifications No. 1476/79 with one year guarantee for sealed unit in refrigeration system and marking Sr. No. and date of erection.	Each	12429	0	12429
3-3-2	Supplying refrigerator domestic type approved make 285 to 310 liters storage capacity, 3 star suitable for operation on 230/250 V 50 cycles complete with automatic temperature control conforming to IS specifications No. 1476/79 with one year guarantee for sealed unit in refrigeration system and marking Sr. No. and date of erection.	Each	29544	0	29544
3-3-3	Supplying, erecting, testing and commissioning self contained water cooler 230/250V 50 cycles nominal cooling capacity of 40 liters per hour and storage capacity 80 liters with partially stainless steel body As per specification No. AP-WCR/WC	Each	36109	450	36559
3-3-4	Supplying, erecting, testing and commissioning self contained water cooler 230/250 V 50 cycles nominal cooling capacity of 80 liters per hour and storage capacity 120 liters with partially stainless steel body as per specification no. AP-WCR/WC	Each	51819	450	52269

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3-3-5	Supplying, erecting, testing and commissioning self contained water cooler 230/250 Volts 50 cycles nominal cooling capacity of 150 liters per hour and storage capacity 150 liters with partially stainless steel body as per specification No. AP-WCR/WC	Each	54985	473	55458
3-3-6	Supplying and erecting, testing and commissioning solar cum natural water cooler suitable for hot and dry weather nominal cooling capacity of 20 liters along with solar panel, fan for cooling, copper storage tank and copper coils with water spraying arrangement as per specification no. AP-WCR/SOLAR WC	Each	64700	1656	66356
3-3-7	Supplying and erecting, testing and commissioning solar cum natural water cooler suitable for hot and dry weather nominal cooling capacity of 50 liters along with solar panel, fan for cooling, copper storage tank and copper coils with water spraying arrangement as per specification no. AP-WCR/SOLAR WC	Each	78572	1656	80228
3.3.8 (New)	Supplying refrigerator Double Door domestic type approved make 285 to 310 liters storage capacity,4 star suitable for operation on 230/250 V 50 cycles complete with automatic temperature control conforming to IS specifications No. 1476/79 with one year guarantee for sealed unit in refrigeration system and marking Sr. No. and date of erection.	Each	40418	0	40418
Note:-	Appliances such as refrigerator,Water Coolers should be used of star rating 3 and above as per B.E.E.				
	3.4 Air Coolers (ACR)				
3-4-1 (New)	Supplying evaporative air cooler (desert cooler) with galvanised steel body 230/250 Volts, 50 cycles, normal cooling capacity of 50 cu.m per minute with 12" exhaust ,min 50 litre water capacity tank complete as per specification No. AP-WCR/DAC	Each	5592	0	5592
3-4-2 (New)	Supplying evaporative air cooler (desert cooler) with galvanised steel body 230/250 Volts, 50 cycles,normal cooling capacity of 70 cu.m per minute with 15" exhaust ,min 68 litre water capacity tank complete as per specification No. AP-WCR/DAC	Each	9614	0	9614
3-4-3 (New)	Supplying evaporative air cooler (desert cooler) with galvanised steel body 230/250 Volts, 50 cycles, normal cooling capacity of 80 cu.m per minute with 18" exhaust ,min 84 litre water capacity tank as per specification No. AP-WCR/DAC	Each	12896	0	12896

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3.5 Water Purifiers (WPF)					
3-5-1	Supplying and erecting ultra violet storage type water purifier with softener for safe drinking water consisting of UV germicidal tube of 8W capacity choke made of copper wire and two indicator lamps with output of purified water 8 Ltr/min with activated carbon filter and softener operating on 230 V single phase A.C. supply.	Each	22909	174	23083
3-5-2	Supplying and erecting ultra violet water purifier with softener for safe drinking water consisting of UV germicidal tube of 8W capacity choke made of copper wire and two indicator lamps & with dual function cartridge with output of purified water 2 Ltr/min with activated carbon filter and softener operating on 230 V single phase A.C. supply.	Each	9672	138	9810
3.6 Inverter (AP-INV)					
3-6-1	Supplying, installing, testing & commissioning of 600 VA Digital pure sine wave inverter based on IGBT technology single phase 230V,50 Hz complete as per specification no. AP-INV (Without batteries)	Each	7340	705	8045
3-6-2	Supplying, installing, testing & commissioning of 800 VA Digital pure sine wave inverter based on IGBT technology single phase 230V,50 Hz complete as per specification no. AP-INV (Without batteries)	Each	8882	629	9511
3-6-3	Supplying, installing, testing & commissioning of 1400 VA Digital pure sine wave inverter based on IGBT technology single phase 230V,50 Hz complete as per specification no. AP-INV (Without batteries)	Each	12315	629	12944
3-6-4	Supplying, installing, testing & commissioning of 2500 VA Digital pure sine wave inverter based on IGBT technology single phase 230V,50 Hz complete as per specification no. AP-INV (Without batteries)	Each	27717	705	28422
3.7 On line UPS (AP-UPS)					
3-7-1	Supplying & erecting On line UPS pure sine wave of 1 kVA capacity complete with standard features, along with necessary SMF batteries for 30 mins. battery backup, as per specification No. AP-UPS	Each	42497	79	42576
3-7-2	Supplying & erecting On line UPS pure sine wave of 2 kVA capacity complete with standard features, along with necessary SMF batteries for 30 mins battery backup, as per specification No. AP-UPS	Each	59480	79	59559

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3-7-3	Supplying & erecting On line UPS pure sine wave of 3 kVA capacity complete with standard features, along with necessary SMF batteries for 30 mins battery backup, as per specification No. AP-UPS	Each	72564	79	72643
3-7-4	Supplying & erecting On line UPS pure sine wave of 5 kVA capacity complete with standard features, along with necessary SMF batteries for 30 mins battery backup, as per specification No. AP-UPS	Each	90570	79	90649
3-7-5	Supplying & erecting On line UPS pure sine wave of 6 kVA capacity complete with standard features, along with necessary SMF batteries for 30 mins battery backup, as per specification No. AP-UPS	Each	147490	79	147569
3-7-6	Supplying & erecting On line UPS pure sine wave of 8 kVA capacity complete with standard features, along with necessary SMF batteries for 30 mins battery backup, as per specification No. AP-UPS	Each	189279	79	189358
3-7-7	Supplying & erecting On line UPS pure sine wave of 10 kVA capacity complete with standard features, along with necessary SMF batteries for 30 mins battery backup, as per specification No. AP-UPS	Each	230250	79	230329
<u>3.8 Batteries for Inverter & UPS</u>					
3-8-1	Supplying and erecting 12 V/80AH TUBULAR Battery with battery terminal wire, duly charged complete with 36 months warranty complete	Each	9911	79	9990
3-8-2	Supplying and erecting 12 V/100AH TUBULAR Battery with battery terminal wire, duly charged complete with 36 months warranty complete	Each	11684	79	11763
3-8-3	Supplying and erecting 12 V/135AH TUBULAR Battery with battery terminal wire, duly charged complete with 36 months warranty complete	Each	16104	79	16183
3-8-4	Supplying and erecting 12 V/150AH TUBULAR Battery with battery terminal wire, duly charged complete with 36 months warranty complete	Each	16693	79	16772
3-8-5	Supplying and erecting 12 V/180AH TUBULAR Battery with battery terminal wire, duly charged complete with 36 months warranty complete	Each	18365	79	18444
3-8-6	Supplying and erecting 12 V/200AH TUBULAR Battery with battery terminal wire, duly charged complete with 36 months warranty complete	Each	21952	79	22031

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3.9 Voltage Stabilizers (AP-VS)					
3-9-1	Supplying and erecting fully automatic line voltage stabilizer buck and boost type for operation on input voltage 160 to 270 V and output voltage 200 to 250 V rated for 0.5 kVA maximum load and with voltmeter, selector switch, 6A/16A flush type 3 pin socket for output and with 3 core flexible cord and 3 pin 6/16 A plug top suitable for refrigerator for continuous operation and marking Sr. No. and date of erection.	Each	2917	0	2917
3-9-2	Supplying and erecting fully automatic line Voltage stabilizer , buck and boost type for operation on input voltage 160 to 270V and output voltage 200 to 250V rated for, 1 kVA maximum load and with voltmeter, selector switch, 6A/16A flush type 3 pin socket for output and with 3 core flexible cord and 3 pin 6/16A plug top suitable for Water Cooler below 120 liter cooling capacity, and marking Sr. No. and date of erection.	Each	3241	0	3241
3-9-3	Supplying and erecting fully automatic line Voltage stabilizer , buck and boost type for operation on input voltage 160 to 270 V and output voltage 200 to 250 V rated for, 3 kVA maximum load and with voltmeter, selector switch, 6A/16A flush type 3 pin socket for output and with 3 core flexible cord and 3 pin 6/16 A plug top suitable for Air Conditioner of 1 TR / Water Cooler of 120 liter cooling capacity and above , and marking Sr. No. and date of erection.	Each	3863	0	3863
3-9-4	Supplying and erecting fully automatic line Voltage stabilizer , buck and boost type for operation on input voltage 160 to 270 V and output voltage 200 to 250 V rated for, 4 kVA maximum load and with voltmeter, selector switch, 6A/16A flush type 3 pin socket for output and with 3 core flexible cord and 3 pin 6/16 A plug top suitable for Air Conditioner of 1.5 TR , and marking Sr. No. and date of erection.	Each	6573	0	6573
3-9-5	Supplying and erecting fully automatic line Voltage stabilizer , buck and boost type for operation on input voltage 160 to 270 V and output voltage 200 to 250 V rated for, 5 kVA maximum load and with voltmeter, selector switch, 6A/16A flush type 3 pin socket for output and with 3 core flexible cord and 3 pin 6/16 A plug top suitable for Air Conditioner of 2.0 TR , and marking Sr. No. and date of erection.	Each	10935	0	10935

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>3.10 Dismantling</u>					
3-10-1	Dismantling the existing electric Geyser or storage type water heater of any size along with plumbing connections and making the site clear.	Each	9	158	167
3-10-2	Dismantling the existing window type air conditioner of any type and capacity safely without any damages and making the site clear.	Each	0	396	396
3-10-3	Dismantling the existing split type air conditioner of any type and capacity safely without any damages and making the site clear.	Each	75	747	822
Note:-	The rates for item no 3.10.1 to 3.10.3 are inclusive of dismantling and handing over to section office inclusive of transportation upto 25 km, between site and section office.				
<u>3.11 Accessories for AC & Water cooler</u>					
3-11-1 (New)	providing servicing of 1/1.5/2 /3 Ton capacity split / Window Airconditioner with all necessary material. Job includes checking of performance of unit, cleaning of filters of indoor unit, cleaning of outdoor unit with blower ,checking of electrical connection of indoor as well as outdoor unit and submitting report to Engineer incharge as per specification AP-SER	Job	112	388	500
3-11-2 (New)	Providing Annual comprehensive maintenance contract for 1 ton split/window unit as per terms and conditions. Job includes 1) Quarterly servicing 2) on call repair 3) replacement of all spares within 24 hours .The job exclude sheet metal work and pastic material as per specification AP-SER	Year	3285	2499	5784
3-11-3 (New)	Providing Annual comprehensive maintenance contract for 1.5 ton split/window unit as per terms and conditions. Job includes 1) Quarterly servicing 2) on call repair 3) replacement of all spares within 24 hours 4) Sending standby manpower for VIP movement The job exclude sheet metal work and pastic material as per specification AP-SER	Year	3862	2499	6361
3-11-4 (New)	Providing Annual comprehensive maintenance contract for 2 ton split/window unit as per terms and conditions. Job includes 1) Quarterly servicing 2) on call repair 3) replacement of all spares within 24 hours 4) Sending standby manpower for VIP movement The job exclude sheet metal work and pastic material as per specification AP-SER	Year	4900	2499	7399

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3-11-5 (New)	Providing Annual comprehensive maintenance contract for 3 ton split/window unit as per terms and conditions. Job includes 1) Quarterly servicing 2) on call repair 3) replacement of all spares within 24 hours 4) Sending standby manpower for VIP movement The job exclude sheet metal work and pastic material as per specification AP-SER	Year	5572	2499	8071
3-11-6 (New)	Dismantling existing unservicable Rotary Compressor of air conditioner , 1 TR capacity and replacing it by new one of same capacity with guarantee for one year.	Job	9118	1666	10784
3-11-7 (New)	Dismantling existing unservicable Rotary Compressor of air conditioner , 1.5 TR capacity and replacing it by new one of same capacity with guarantee for one year.	Job	10816	1666	12482
3-11-8 (New)	Dismantling existing unservicable Rotary Compressor of air conditioner, 2TR capacity and replacing it by new one of same capacity with guarantee for one year.	Job	11885	1666	13551
3-11-9 (New)	Dismantling existing unservicable Rotary Compressor of air conditioner, 3 TR capacity and replacing it by new one of same capacity with guarantee for one year.	Job	20374	1666	22040
3-11-10 (New)	Providing flushing out cooling coil and condensor coil of airconditioner unit ,gas pipes internally with dry Nitrogen pressure in an approved manner	Job	537	180	717
3-11-11 (New)	Providing brazing to copper pipes and checking leakages in the split/ window unit duly with dry nitrogen pressure in an approved manner	Job	537	180	717
3-11-12 (New)	Providing replacement of unservicable starting Relay for AC unit.	Each	205	45	250
3-11-13 (New)	Providing replacement of unservicable Starting Capacitor for A/C unit	Each	682	45	727
3-11-14 (New)	Providing replacement of unservicable Running Capacitor for A/C unit	Each	682	45	727
3-11-15 (New)	Providing Replacement of unservicable fan motor Capacitor for A/C unit	Each	136	45	181
3-11-16 (New)	Providing Replacement of unservicable PCB for A/C unit	Each	6383	90	6473
3-11-17 (New)	Providing repair of faulty PCB for A/C unit	Each	1050	90	1140
3-11-18 (New)	Providing new fan motor for condensor for A/C unit	Each	4424	180	4604
3-11-19 (New)	Providing new fan motor for Room unit for A/C unit	Each	1330	90	1420

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3-11-20 (New)	Providing new fan blade outdoor unit for A/C unit	Each	1193	45	1238
3-11-21 (New)	Providing replacement of blower of indoor unit for A/C unit	Each	1431	180	1611
3-11-22 (New)	Providing replacement of remote of indoor unit for A/C unit	Each	1415	26	1441
3-11-23 (New)	Providing vaccumising the airconditioner system and charging with R-22 refrigerent gas for A/C unit	KG	830	90	920
3-11-24 (New)	Providing vaccumising the airconditioner system and charging with R-410A/R32 refrigerent gas for A/C unit	KG	1107	90	1197
3-11-25 (New)	Providing vaccumising the airconditioner system to 200 micron and charging with R-22 refrigerent gas for 1 Ton window/split A/C unit.	Job	1038	360	1398
3-11-26 (New)	Providing vaccumising the airconditioner system to 200 micron and charging with R-22 refrigerent gas for 1.5 Ton window/split A/C unit.	Job	1328	360	1688
3-11-27 (New)	Providing vaccumising the airconditioner system to 200 micron and charging with R-22 refrigerent gas for 2 Ton window/split A/C unit.	Job	1660	360	2020
3-11-28 (New)	Providing vaccumising the airconditioner system to 200 micron and charging with R-22 refrigerent gas for 3 Ton window/split A/C unit.	Job	2905	450	3355
	Note:- 1) If cost of repairs of AC is more than 50% of the cost of new unit replacement of same shall be proposed				
	2) Old replaced material to be retained by contractor				
	3) For item no 3.11.25 to 3.11.28 for R410A/R32 gas increase material rate by 30 percent.				
3-11-29 (New)	Dismantling existing unservicable Compressor of 40 litre cooling capacity water cooler replacing it by new one of same capacity with guarantee for one year .	Job	8056	1317	9373
3-11-30 (New)	Dismantling existing unservicable Compressor of 60 litre cooling capacity water cooler replacing it by new one of same capacity with guarantee for one year .	Job	9118	1317	10435
3-11-31 (New)	Dismantling existing unservicable Compressor of 150 litre cooling capacity water cooler replacing it by new one of same capacity with guarantee for one year .	Job	10218	1317	11535

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
3-11-32 (New)	Dismantling existing unservicable condensor coil of 40/80/150 litre cooling capacity water cooler replacing it by new one of same capacity and testing to the satisfaction of site engineer for cooling and with guarantee for one year	Job	6917	597	7514
3-11-33 (New)	Dismantling existing unservicable SS water tap of 40/80/150 litre cooling capacity water cooler replacing it by new one of same capacity and testing to the satisfaction of site engineer for cooling and with guarantee for one year	Job	817	45	862
3-11-34 (New)	Dismantling existing unservicable relay 40/80/150 litre cooling capacity water cooler replacing it by new one of same capacity and testing to the satisfaction of site engineer for cooling and with guarantee for one year	Job	189	45	234
3-11-35 (New)	Dismantling existing unservicable thermostat of 40/80/150 litre cooling capacity water cooler replacing it by new one of same capacity and testing to the satisfaction of site engineer for cooling and with guarantee for one year	Job	566	45	611
3-11-36 (New)	Supplying and erecting candle filter with filter pot for water cooler	Job	943	360	1303
3-11-37 (New)	Supplying and erecting Connector Pipe for candle filter of water cooler	Job	566	90	656
3-11-38 (New)	Providing replacement of Base tray of water cooler of any capacity	Job	2213	540	2753
Note:-	1) If cost of repairs of water cooler is more than 50% of the cost of new unit, replacement of same shall be proposed 2) old material to be retained by contractor				

Chapter 4

ENERGY SAVING DEVICES (ESD)

4.1 Solar Hot Water System	(ESD-SHWS)
4.2 Pipes for Solar Hot Water System	(ESD-HWP)
4.3 Solar Lighting	(ESD-SOL)
4.4 Miscellaneous	
4.5 Roof Top OFF Grid Solar Systems	(ESD-RT-OFG)
4.6 Roof Top ON Grid Solar Systems	(ESD-RT-ONG)
4.7 Solar Water Pump Systems	(ESD-SWPS)
4.8 Dismantling	

Chapter 4 : ENERGY SAVING DEVICES (ESD)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>4.1 Solar Hot Water System (ESD-SHWS)</u>					
4-1-1 (New)	Supplying & Installing, Testing & Commissioning of FPC Solar water heating system without heat exchanger type of 100 LPD capacity as per specification No. ESD-SHWS-FPC	Each	21848	2060	23908
4-1-2 (New)	Supplying & Installing, Testing & Commissioning of FPC Solar water heating system without heat exchanger type of 200 LPD capacity as per specification No. ESD-SHWS-FPC	Each	38016	2575	40591
4-1-3 (New)	Supplying & Installing, Testing & Commissioning of FPC Solar water heating system without heat exchanger type of 300 LPD capacity as per specification No. ESD-SHWS-FPC	Each	52437	3090	55527
4-1-4	Supplying & Installing, Testing & Commissioning of FPC Solar water heating system without heat exchanger type of 500 LPD capacity as per specification No. ESD-SHWS-FPC	Each	74285	4949	79234
4-1-5	Supplying & Installing, Testing & Commissioning of FPC Solar water heating system without heat exchanger type of 1000 LPD capacity as per specification No. ESD-SHWS-FPC	Each	124974	8039	133013
4-1-6 (New)	Supplying & Installing, Testing & Commissioning of ETC Solar water heating system without heat exchanger type of 100 LPD capacity as per specification No. ESD-SHWS-ETC	Each	20960	2060	23020
4-1-7 (New)	Supplying & Installing, Testing & Commissioning of ETC Solar water heating system without heat exchanger type of 200 LPD capacity as per specification No. ESD-SHWS-ETC	Each	35007	2575	37582
4-1-8 (New)	Supplying & Installing, Testing & Commissioning of ETC Solar water heating system without heat exchanger type of 300 LPD capacity as per specification No. ESD-SHWS-ETC	Each	37677	3090	40767
4-1-9 (New)	Supplying & Installing, Testing & Commissioning of ETC Solar water heating system without heat exchanger type of 500 LPD capacity as per specification No. ESD-SHWS-ETC	Each	65276	4949	70225

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
4-1-10 (New)	Supplying & Installing, Testing & Commissioning of ETC Solar water heating system without heat exchanger type of 1000 LPD capacity as per specification No. ESD-SHWS-ETC	Each	108311	8039	116350
Note	<p>1.If the solar water heating system is to be provided with heat exchanger ,increase overall rates by 15 %.</p> <p>2. For all Hostel Bldg, Rest Houses, Circuit Houses, Dormitories and Residential quarters, Solar water heating System shall be proposed for new installation and for replacement / renovation instead of Electrical water Heater.</p>				
<u>4.2 Pipes for Solar Hot Water System (ESD-HWP)</u>					
4-2-1	Supplying and erecting G.I pipe 15 mm dia B class with resin bonded flap rock wool/glass wool insulation , with necessary material as per specification No. (ESD-HWP/TGP)	m	250	72	322
4-2-2	Supplying and erecting G.I pipe 20 mm dia B class with resin bonded flap rock wool/glass wool insulation , with necessary material as per specification No. (ESD-HWP/TGP)	m	299	72	371
4-2-3	Supplying and erecting G.I pipe 25 mm dia B class with resin bonded flap rock wool/glass wool insulation , with necessary material as per specification No. (ESD-HWP/TGP)	m	403	144	547
4-2-4	Supplying and erecting G.I pipe 32 mm dia B class with resin bonded flap rock wool/glass wool insulation , with necessary material as per specification No. (ESD-HWP/TGP)	m	486	144	630
4-2-5	Supplying and erecting G.I pipe 40 mm dia B class with resin bonded flap rock wool/glass wool insulation , with necessary material as per specification No. (ESD-HWP/TGP)	m	565	144	709
4-2-6	Supplying and erecting G.I pipe 50 mm dia B class with resin bonded flap rock wool/glass wool insulation , with necessary material as per specification No. (ESD-HWP/TGP)	m	754	144	898
4-2-7	Supplying and erecting 12/16 mm (ID/OD) polyethylene composite pipe duly joined by compression/crimp fitted accessories, with internal as well as external end sealing arrangement for Solar Water Heater System as per specification No. (ESD-HWP/PCP)	m	145	54	199

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
4-2-8	Supplying and erecting 16/20 mm (ID/OD) polyethylene composite pipe duly joined by compression/crimp fitted accessories, with internal as well as external end sealing arrangement for Solar Water Heater System as per specification No. (ESD-HWP/PCP)	m	175	54	229
4-2-9	Supplying and erecting 20/25 mm (ID/OD) polyethylene composite pipe duly joined by compression/crimp fitted accessories, with internal as well as external end sealing arrangement for Solar Water Heater System as per specification No. (ESD-HWP/PCP)	m	228	60	288
4-2-10	Supplying and erecting 25/32 mm (ID/OD) polyethylene composite pipe duly joined by compression/crimp fitted accessories, with internal as well as external end sealing arrangement for Solar Water Heater System as per specification No. (ESD-HWP/PCP)	m	313	60	373
4-2-11	Supplying and erecting 32/40 mm (ID/OD) polyethylene composite pipe duly joined by compression/crimp fitted accessories, with internal as well as external end sealing arrangement for Solar Water Heater System as per specification No. (ESD-HWP/PCP)	m	462	60	522
4-2-12	Supplying and erecting 40/50 mm (ID/OD) polyethylene composite pipe duly joined by compression/crimp fitted accessories, with internal as well as external end sealing arrangement for Solar Water Heater System as per specification No. (ESD-HWP/PCP)	m	680	60	740
4-2-13	Supplying and erecting Elastomeric Nitrile rubber / foam tube type sleeves for over coating and insulating on provided PCP pipes / copper pipes having 9 mm thickness and inner diameter / sizes 6 mm for Solar Water Heater System as per specification no ESD-ENR	m	48	6	54
4-2-14	Supplying and erecting Elastomeric Nitrile rubber / foam tube type sleeves for over coating and insulating on provided PCP pipes / copper pipes having 9 mm thickness and inner diameter / sizes 9 mm for Solar Water Heater System as per specification no ESD-ENR	m	56	6	62
4-2-15	Supplying and erecting Elastomeric Nitrile rubber / foam tube type sleeves for over coating and insulating on provided PCP pipes / copper pipes having 9 mm thickness and inner diameter / sizes 12 mm for Solar Water Heater System as per specification no ESD-ENR	m	61	6	67

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
4-2-16	Supplying and erecting Elastomeric Nitrile rubber / foam tube type sleeves for over coating and insulating on provided PCP pipes / copper pipes having 9 mm thickness and inner diameter / sizes 16 mm for Solar Water Heater System as per specification no ESD-ENR	m	73	6	79
4-2-17	Supplying and erecting Elastomeric Nitrile rubber / foam tube type sleeves for over coating and insulating on provided PCP pipes / copper pipes having 9 mm thickness and inner diameter / sizes 19 mm for Solar Water Heater System as per specification no ESD-ENR	m	85	6	91
4-2-18	Supplying and erecting Elastomeric Nitrile rubber / foam tube type sleeves for over coating and insulating on provided PCP pipes / copper pipes having 9 mm thickness and inner diameter / sizes 22 mm for Solar Water Heater System as per specification no ESD-ENR	m	93	6	99
4-2-19	Supplying and erecting Elastomeric Nitrile rubber / foam tube type sleeves for over coating and insulating on provided PCP pipes / copper pipes having 9 mm thickness and inner diameter / sizes 28 mm for Solar Water Heater System as per specification no ESD-EN	m	115	6	121
4-2-20	Supplying and erecting Elastomeric Nitrile rubber / foam tube type sleeves for over coating and insulating on provided PCP pipes / copper pipes having 9 mm thickness and inner diameter / sizes 32 mm for Solar Water Heater System as per specification no ESD-ENR	m	119	6	125
4-2-21	Supplying and erecting Elastomeric Nitrile rubber / foam tube type sleeves for over coating and insulating on provided PCP pipes / copper pipes having 9 mm thickness and inner diameter / sizes 42 mm for Solar Water Heater System as per specification no ESD-ENR	m	138	6	144
Note:	For polyethylene composite pipe additional insulation may be proposed where there is drastic fall in temperature due to atmospheric condition.				

4.3 Solar Lighting (ESD-SOL)

- 4-3-1 Deleted
- 4-3-2 Deleted
- 4-3-3 Deleted

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
4-3-4	Deleted				
4-3-5	Deleted				
4-3-6	Deleted				
4-3-7 (New)	Supplying and Erecting Solar Home light System with 2 white LED Luminary, 12V 12AH SMF battery/Appropriate Lithium Battery, 20 Wp SPV Module with module mounting hardware control electronic connecting wire switches Battery box as per specification no ESD-SOL/SHL	Each	7057	416	7473
4-3-8 (New)	Supplying and Erecting Solar Home light System with 3 white LED Luminary, 12v, 20AH SMF battery/Appropriate Lithium Battery, 30 Wp SPV Module with module mounting hardware control electronic connecting wire switches Battery box as per specification no ESD-SOL/SHL	Each	10292	416	10708
4-3-9	Deleted				
4-3-10	Deleted				
4-3-11	Deleted				
4-3-12	Deleted				
4-3-13	Deleted				
4-3-14 (New)	Supplying and erecting Solar panel comprising high efficiency mono-crystalline / multi crystalline Photovoltaic Cell 100 Wp, 12V , with necessary clamps and module frame on existing structure as per specification no. ESD-SOL/CELL	Each	4759	326	5085
4-3-15 (New)	Supplying and erecting Solar panel comprising high efficiency mono-crystalline / multi crystalline Photovoltaic Cell 250 Wp, 24V with necessary clamps and module frame on existing structure as per specification no. ESD-SOL/CELL	Each	9734	371	10105
4-3-16 (New)	Supplying and erecting Solar panel comprising high efficiency mono-crystalline / multi crystalline Photovoltaic Cell 300Wp, 24V , with necessary clamps and module frame on existing structure as per specification no. ESD-SOL/CELL	Each	10903	445	11348

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
4-3-17	Supplying and erecting approved make battery with capacity of 12 V 40 AH with duty cycle 10-12 hrs suitable to charge on PV cell with necessary wiring connections erected in powder coated protection box with stand and nut bolts as per specification no. ESD-SOL/BAT	Each	7866	180	8046
4-3-18	Supplying and erecting approved make battery with capacity of 12 V 75 AH with duty cycle 10-12 hrs suitable to charge on PV cell with necessary wiring connections erected in powder coated protection box with stand and nut bolts as per specification no. ESD-SOL/BAT	Each	9900	225	10125
4-3-19 (New)	Supplying and erecting approved make battery with capacity of 12 V 150 AH with duty cycle 10-12 hrs suitable to charge on PV cell with necessary wiring connections erected in powder coated protection box with stand and nut bolts as per specification no. ESD-SOL/BAT	Each	17631	270	17901
4-3-20 (New)	Supplying, installing, testing and commissioning Solar street light pole comprising of 9 W LED fitting, 12V min. 40AH maintenance free Lithium Battery, min. 40 Wp SPV module, MS Powder Coated Battery Box weatherproof, mounted on 75/80 mm dia. B-Grade GI Pole of 6 Mtr. height alongwith brackets, foundation, earthing and necessary accessories complete as per specification no. ESD-SOL-STL	Each	19474	867	20341
4-3-21 (New)	Supplying, installing, testing and commissioning Solar street light pole comprising of 14W LED fitting, 12V min. 75AH maintenance free Lithium Battery, min. 75Wp SPV module, MS Powder Coated Battery Box weatherproof, mounted on 75/80 mm dia. B-Grade GI Pole of 6 Mtr. height alongwith brackets, foundation, earthing and necessary accessories complete as per specification no. ESD-SOL-STL	Each	33677	1137	34814
4-3-22 (New)	Supplying, installing, testing and commissioning Solar street light pole comprising of 12W x 2 nos. LED fittings, 12V min. 100AH maintenance free Lithium Battery, min. 100Wp SPV module, MS Powder Coated Battery Box weatherproof, mounted on 75/80 mm dia. B-Grade GI Pole of 6 Mtr. height alongwith brackets, foundation, earthing and necessary accessories complete as per specification no. ESD-SOL-STL	Each	36708	1182	37890

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
4-3-23 (New)	Supplying, installing, testing and commissioning Solar LED Mini Hi – Mast 20 W X 6 Nos. LED Luminary, 2 Nos. x min. 200AH 12 V Battery, min. 400 Wp SPV Modules , mounted on GI Octagonal Pole with bottom of 130 mm A/F, top 70 mm A/F 6 mtr height alongwith brackets, foundation, earthing and necessary accessories, waterproof Battery Box, Suitable solar inverter, Timer setting arrangement, GI / Powder coated module structure, with first 6 hr. full intensity light output and following 6 hr. with half intensity light output alongwith Solar and local electrical power supply charging facility as per specification no. ESD-SOL-STL-MHM	Each	118990	3931	122921

4.4 Miscellaneous

4-4-1	Supplying and erecting Quartz Electronic time switch having 24 hour dial to work on 250V 50 cycle A.C. having built in rechargeable Nickel Cadmium batteries to run the time switch on failure of supply having switch contact rating upto 16A to use independently or in conjunction with contactor.	Each	2323	72	2395
4-4-2	Supplying and erecting two pole power contactor 250V 12A for time switch complete erected on wooden block/provided box, with necessary materials.	Each	1060	86	1146
4-4-3	Supplying and erecting two pole power contactor 250V 32A for time switch complete erected on wooden block/provided box, with necessary materials.	Each	3792	86	3878
4-4-4	Supplying and erecting 4 pole power contactor 440V 16A for time switch complete erected on wooden block/provided box, with necessary materials.	Each	1155	86	1241
4-4-5	Supplying and erecting 4 pole power contactor 440V 40A for time switch complete erected on wooden block/provided box, with necessary materials.	Each	3706	86	3792

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
4-4-6	Supplying and erecting Programmable Digital Almanac Timer Microcontroller based with real time clock to operate on derived switching “ON” & switching “OFF” street light as per daily sunset and sunrise respectively automatically having 4 digit LED continuous time display, relay output 230V / 10A with 10 Hrs battery backup and manual over drive facility capable to drive different capacity contactors timer erected in MS box in an approved manner.	Each	7156	86	7242
4-4-7 (New)	Providing and fixing H.D.P container Syntex or alike one piece moulded water tank made out of high density polyethylene and built corrugated inclusive of delivery up to destination hoisting and fixing of accessories such as inlet,outlet overflow pipe inclusive of all tanks capacity up to 20000 liters. <u>4.5 Rooftop OFF Grid Solar Systems (ESD-RT-OFG)</u>	per litre	8	1	9
4-5-1 (New)	Supplying, Installing,Testing and commissioning of 1 KWp Offgrid Solar Power Pack with GI mounting structure and inter connecting wires / cables along with battery bank of min. 600 AH capacity, SPV Modules of 1 KWp, Solar power Invertor of min. 1 KVA capacity complete. With 5 years on site performance warranty as per Specification no. ESD-RT-OFG	Each	132053	4796	136849
4-5-2 (New)	Supplying, Installing,Testing and commissioning of 1.5 KWp Off Grid Solar Power Pack with GI mounting structure and inter connecting wires / cables along with battery bank of min. 900 AH capacity, SPV Modules of 1.5 KWp, Solar power Invertor of min. 2 KVA capacity complete. With 5 years on site performance warranty as per Specification no. ESD-RT-OFG	Each	197902	4796	202698
4-5-3 (New)	Supplying, Installing,Testing and commissioning of 2 KWp Offgrid Solar Power Pack with GI mounting structure and inter connecting wires / cables along with battery bank of min. 1200 AH capacity, SPV Modules of 2 KWp, Solar power Invertor of min. 2 KVA capacity complete. With 5 years on site performance warranty as per Specification no. ESD-RT-OFG	Each	279659	4796	284455

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
4-5-4 (New)	Supplying, Installing,Testing and commissioning of 3 KWp Offgrid Solar Power Pack with GI mounting structure and inter connecting wires / cables along with battery bank of min. 1800 AH capacity, SPV Modules of 3 KWp, Solar power Invertor of min. 3 KVA capacity complete. With 5 years on site performance warranty as per Specification no. ESD-RT-OFG	Each	360450	7180	367630
4-5-5 (New)	Supplying, Installing,Testing and commissioning of 5 KWp Offgrid Solar Power Pack with GI mounting structure and inter connecting wires / cables along with battery bank of min. 3000 AH capacity, SPV Modules of 5 KWp, Solar power Invertor of min. 5 KVA capacity complete. With 5 years on site performance warranty as per Specification no. ESD-RT-OFG	Each	602685	7180	609865
4-5-6 (New)	Supplying, Installing,Testing and commissioning of 7.5 KWp Off Grid Solar Power Pack with GI mounting structure and inter connecting wires / cables along with battery bank of min. 4500 AH capacity, SPV Modules of 7.5 KWp, Solar power Invertor of min. 7.5 KVA capacity complete. With 5 years on site performance warranty as per Specification no. ESD-RT-OFG	Each	788463	7180	795643
4-5-7 (New)	Supplying, Installing,Testing and commissioning of 10 KWp Offgrid Solar Power Pack with GI mounting structure and inter connecting wires / cables along with battery bank of min. 6000 AH capacity, SPV Modules of 10 KWp, Solar power Invertor of min. 10 KVA capacity complete. With 5 years on site performance warranty as per Specification no. ESD-RT-OFG	Each	1065139	8161	1073300

4.6 Rooftop ON Grid Solar Systems (ESD-RT-ONG)

4-6-1 (New)	Supplying, Installing,Testing and commissioning of 1 KWp capacity On-Grid Solar Power Pack with GI mounting structure and inter connecting wires / cables without battery bank SPV Modules of 1 KWp, Solar power Conditioning unit of min. 1KVA capacity complete. With 5 years on site performance warranty as per Specification no ESD-RT-ONG	Each	76329	4097	80426
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Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
4-6-2 (New)	Supplying, Installing,Testing and commissioning of 2 KWp capacity On-Grid Solar Power Pack with GI mounting structure and inter connecting wires / cables without battery bank SPV Modules of 2 KWp, Solar power Conditioning unit of min. 2 KVA capacity complete. With 5 years on site performance warranty as per Specification no ESD-RT-ONG	Each	123558	4097	127655
4-6-3 (New)	Supplying, Installing,Testing and commissioning of 3 KWp capacity On-Grid Solar Power Pack with GI mounting structure and inter connecting wires / cables without battery bank SPV Modules of 3 KWp, Solar power Conditioning unit of min. 3 KVA capacity complete. With 5 years on site performance warranty as per Specification no ESD-RT-ONG	Each	176999	6264	183263
4-6-4 (New)	Supplying, Installing,Testing and commissioning of 5 KWp capacity On-Grid Solar Power Pack with GI mounting structure and inter connecting wires / cables without battery bank SPV Modules of 5 KWp, Solar power Conditioning unit of min. 5 KVA capacity complete. With 5 years on site performance warranty as per Specification no ESD-RT-ONG	Each	336490	6264	342754
4-6-5 (New)	Supplying, Installing,Testing and commissioning of 7.5 KWp capacity On-Grid Solar Power Pack with GI mounting structure and inter connecting wires / cables without battery bank SPV Modules of 7.5 KWp, Solar power Conditioning unit of min. 7.5 KVA capacity complete. With 5 years on site performance warranty as per Specification no ESD-RT-ONG	Each	505981	6264	512245
4-6-6 (New)	Supplying, Installing,Testing and commissioning of 10 KWp capacity On-Grid Solar Power Pack with GI mounting structure and inter connecting wires / cables without battery bank SPV Modules of 10 KWp, Solar power Conditioning unit of min. 10 KVA capacity complete. With 5 years on site performance warranty as per Specification no ESD-RT-ONG	Each	667697	7494	675191

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
4.7 Solar Water Pump Systems (ESD-SWPS)					
4-7-1 (New)	Supplying, Installing, Testing and commissioning of 1 HP capacity AC/DC Solar water pump (SPV pump), comprising of min. 1 KWp capacity multi crystalline SPV modules mounted on GI Structure with necessary hardware with controller, suitable size HDPE delivery water pipe line up to 60mtr length inside or above water tank/borewell with necessary control valves and necessary power supply cable of appropriate size complete. With 5 years on site performance warranty as per specification no. ESD-SWPS	Each	109148	7327	116475
4-7-2 (New)	Supplying, Installing, Testing and commissioning of 2 HP capacity AC/DC Solar water pump (SPV pump), comprising of min. 2 KWp capacity multi crystalline SPV modules mounted on GI Structure with necessary hardware with controller, suitable size HDPE delivery water pipe line up to 60mtr length inside or above water tank/borewell with necessary control valves and necessary power supply cable of appropriate size complete. With 5 years on site performance warranty as per specification no. ESD-SWPS	Each	216221	7567	223788
4-7-3 (New)	Supplying, Installing, Testing and commissioning of 3 HP capacity AC/DC Solar water pump (SPV pump), comprising of min. 3 KWp capacity multi crystalline SPV modules mounted on GI Structure with necessary hardware with controller, suitable size HDPE delivery water pipe line up to 60mtr length inside or above water tank/borewell with necessary control valves and necessary power supply cable of appropriate size complete. With 5 years on site performance warranty as per specification no. ESD-SWPS	Each	263461	8807	272268
4-7-4 (New)	Supplying, Installing, Testing and commissioning of 5 HP capacity AC/DC Solar water pump (SPV pump), comprising of min. 5 KWp capacity multi crystalline SPV modules mounted on GI Structure with necessary hardware with controller, suitable size HDPE delivery water pipe line up to 60 mtr length inside or above water tank/borewell with necessary control valves and necessary power supply cable of appropriate size complete. With 5 years on site performance warranty as per specification no. ESD-SWPS	Each	440950	10448	451398

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
4-7-5 (New)	Supplying, Installing, Testing and commissioning of 7.5 HP capacity AC/DC Solar water pump (SPV pump), comprising of min. 7.5 KWp capacity multi crystalline SPV modules mounted on GI Structure with necessary hardware with controller, suitable size HDPE delivery water pipe line up to 60 mtr length inside or above water tank/borewell with necessary control valves and necessary power supply cable of appropriate size complete. With 5 years on site performance warranty as per specification no. ESD-SWPS	Each	616783	15135	631918
4-7-6 (New)	Supplying, Installing, Testing and commissioning of 10 HP capacity AC/DC Solar water pump (SPV pump), comprising of min. 10 KWp capacity multi crystalline SPV modules mounted on GI Structure with necessary hardware with controller, suitable size HDPE delivery water pipe line up to 60 mtr length inside or above water tank/borewell with necessary control valves and necessary power supply cable of appropriate size complete. With 5 years on site performance warranty as per specification no. ESD-SWPS	Each	791114	19619	810733

4.8 Dismantling

4-8-1 (New)	Dismantling the existing solar water heating system upto 500 LPD Capacity along with piping etc. from RoofTop & Bringing Down to ground	Each	0	2060	2060
4-8-2 (New)	Dismantling the existing solar water heating system above 500 to 1000 LPD Capacity along with piping etc. from RoofTop & Bringing Down to ground.	Each	0	3299	3299

Chapter 5

SWITCHGEARS (SW)

5.1 IC/MC Switchgears/ COS/ ATS	(SW-SWR)
5.2 IC / MC Distribution Boards/ Mini Feeder Pillar/ street light control panel	(SW-DB)
5.3 LT - MCBs / MCB change over switch	(SW-MCB)
5.4 LT - MCBDBs	(SW-MCBDB)
5.5 LT - MCCBs	(SW-MCCB)
5.6 RCCB / RCBO	(SW-RCCB)
5.7 MCCB Panel Boards and Accessories	(SW- SWR-MCCBPB)
5.8 LT - Air Circuit Breakers	(SW-ACB)
5.9 HT SF6 Load Break Switch/ VCB/ RMU	(SW-HTS)
5.10 Accessories	(SW-AS)
5.11 Accessories for MCCBs	
5.12 Dismantling	

Chapter : 5 SWITCHGEARS (SW)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>5.1 LT - IC/MC Switchgears, ATS (SW-SWR)</u>					
5-1-1	Supplying and erecting Insulated D.P. switch surface type/ flush type 32A 240V with indicator lamp & fuse as per specification No. SW-SWR/BDP	Each	131	65	196
5-1-2	Supplying and erecting double pole metal /iron clad switch with fuse and neutral link 240V 16A on iron / G.I. Frame / board as per specification No. SW-SWR/MDP	Each	521	69	590
5-1-3	Supplying and erecting double pole metal /iron clad switch with H.C. type fuse and neutral link 240V, 32A on iron / G.I. frame/board as per specification No. SW-SWR/MDP	Each	922	69	991
5-1-4	Supplying and erecting double pole metal / iron clad switch with fuse 63A 240V on iron / G.I. frame/ board as per specification No. SW-SWR/MDP	Each	2090	69	2159
5-1-5	Supplying and erecting Triple pole metal / iron clad switch & H.C. type fuse 415 / 500V 16A on iron / G.I. frame / board as per specification No. SW-SWR/MTP	Each	1147	69	1216
5-1-6	Supplying and erecting Triple pole metal / iron clad switch & fuse 415 / 500V 32A on iron / G.I. frame / board as per specification No. SW-SWR/MTP	Each	1476	69	1545
5-1-7	Supplying and erecting Triple pole metal/ iron clad switch and fuse 415 / 500V 63A on angle iron / G.I. frame as per specification No. SW-SWR/MTP	Each	2918	108	3026
5-1-8	Supplying and erecting Triple pole metal / iron clad switch and fuse 415 / 500V 100A on angle iron / G.I. frame as per specification No. SW-SWR/MTP	Each	6031	189	6220
5-1-9	Supplying and erecting Triple pole metal / iron clad re- wireable fuse switch 415 / 500V 200A on angle iron / G.I. frame as per specification No. SW-SWR / MTP	Each	7653	189	7842
5-1-10	Deleted		0	0	0
5-1-11	Supplying and erecting Triple pole iron clad HC type rewirable fuse and switch 415 / 500V 16A with neutral link on angle iron / G.I. frame as per specification No. SW-SWR/MTP	Each	1129	99	1228
5-1-12	Supplying and erecting Triple pole iron clad H.C. type rewirable fuse and switch 415 / 500V 32A with neutral link on angle iron / G.I. frame as per specification No. SW-SWR/MTP	Each	1548	99	1647

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-1-13	Supplying and erecting Triple pole iron clad H.C. type rewirable fuse and switch 415 / 500V 63A with neutral link on angle iron / G.I. frame as per specification No. SW-SWR/MTP	Each	3062	129	3191
5-1-14	Supplying and erecting Triple pole metal/ iron clad switch and fuse 415/ 500V 100A with neutral link on angle iron / G.I. frame as per specification No. SW-SWR/MTP	Each	6316	189	6505
5-1-15	Supplying and erecting Triple pole metal clad/ iron clad rewirable fuse 415/ 500V 200A with neutral link on angle iron / G.I. frame as per specification No. SW-SWR/MTP	Each	10883	189	11072
5-1-16	Supplying and erecting Triple pole metal/ iron clad HRC fuse switch 415/ 500V 63A with neutral link with ISI marked HRC fuses on angle iron / G.I. frame as per specification No. SW-SWR/TPHRC	Each	5194	129	5323
5-1-17	Supplying and erecting Triple pole metal/ iron clad HRC fuse switch 415/ 500 V.100 A. with neutral link with ISI marked HRC fuses on angle iron / G.I. frame as per specification no. SW-SWR/TPHRC	Each	7420	189	7609
5-1-18	Supplying and erecting Triple pole metal/ iron clad HRC fuse switch 415/ 500V 200A with neutral link with ISI marked HRC fuses on angle iron / G.I. frame as per specification No. SW-SWR/TPHRC	Each	10220	189	10409
5-1-19	Supplying and erecting Triple pole metal / iron clad HRC fuse switch 415/ 500V 300-320 A with neutral link with ISI marked HRC fuses, on angle iron / G.I. frame as per specification No. SW-SWR/TPHRC	Each	12423	289	12712
5-1-20	Supplying and erecting Triple pole metal clad HRC fuse switch 415/ 500V 400A with neutral link with ISI marked HRC fuses, on angle iron / G.I. frame as per specification No. SW-SWR/TPHRC	Each	18279	424	18703
5-1-21	Supplying and erecting Triple pole metal clad HRC fuse switch 415/ 500V 500A with neutral link with ISI marked HRC fuses, on angle iron / G.I. frame as per specification No. SW-SWR/TPHRC	Each	21779	424	22203
5-1-22	Supplying and erecting Triple pole metal clad HRC fuse switch 415/ 500V 630A with neutral link with ISI marked HRC fuses, on angle iron / G.I. frame. As per specification No. SW-SWR/TPHRC	Each	25319	488	25807
5-1-23	Supplying and erecting Triple pole metal clad HRC fuse switch 415 / 500V 800A with neutral link with ISI marked HRC fuses, on angle iron / G.I. frame as per specification No.	Each	37672	553	38225

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
SW-SWR/TPHRC					
5-1-24	Supplying & erecting Four pole Iron clad/metal clad ON LOAD change over switch 16A, 415 / 500V erected on angle iron / G.I. frame approved make.	Each	2281	165	2446
5-1-25	Supplying & erecting Four pole Iron clad/metal clad ON LOAD change over switch 40A, 415 / 500V erected on angle iron / G.I. frame approved make.	Each	2694	165	2859
5-1-26	Supplying & erecting Four pole Iron clad/metal clad ON LOAD change over switch 63A, 415/500V erected on angle iron / G.I. frame approved make.	Each	5298	165	5463
5-1-27	Supplying & erecting on load four pole Iron clad/metal clad ON LOAD change over switch 100A, 415 / 500V erected on angle iron / G.I. frame approved make.	Each	9689	230	9919
5-1-28	Supplying & erecting on load Four pole Iron clad/metal clad ON LOAD change over switch 200A, 415/500V erected on angle iron / G.I. frame approved make.	Each	10589	280	10869
5-1-29	Supplying & erecting on load Four pole Iron clad/metal clad ON LOAD change over switch 320A, 415/500V erected on angle iron / G.I. frame approved make.	Each	16666	323	16989
5-1-30	Supplying & erecting on load Four pole Iron clad/metal clad ON LOAD change over switch 400A, 415/500V erected on angle iron / G.I. frame approved make.	Each	24032	430	24462
5-1-31	Supplying and erecting two pole iron clad/metal clad ON LOAD change over switch 16A 240V erected on angle iron / G.I. frame approved make and duly connected with suitable wire leads.	Each	1140	147	1287
5-1-32	Supplying and erecting two pole iron clad/metal clad ON LOAD change over switch 32A 240V erected on angle iron / G.I. frame approved make and duly connected with suitable wire leads.	Each	1626	147	1773
5-1-33	Supplying and erecting approved make ON LOAD Four Pole Automatic Transfer Switch suitable for 415V, 50 Hz, 100A capacity conforming to IEC: 60947-1 & IEC: 947-6-1/ IS: 13947-1, with Enclosure, automatic/manual inbuilt Time delay, high transfer speed, excellent breaking capacity, superior making capacity, compact & light weight, erected on provided angle iron /G.I. frame and connected with provided leads.	Each	43011	424	43435

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-1-34	Supplying and erecting approved make ON LOAD Four Pole Automatic Transfer Switch suitable for 415V, 50 Hz, 160A capacity conforming to IEC: 60947-1 & IEC: 947-6-1/ IS: 13947-1, with Enclosure, automatic/manual inbuilt Time delay, high transfer speed, excellent breaking capacity, superior making capacity, compact & light weight, erected on provided angle iron / G.I. frame and connected with provided leads.	Each	58050	424	58474
5-1-35	Supplying and erecting approved make ON LOAD Four Pole Automatic Transfer Switch suitable for 415V, 50 Hz, 200A capacity conforming to IEC: 60947-1 & IEC: 947-6-1/ IS: 13947-1, with Enclosure, automatic/manual inbuilt Time delay, high transfer speed, excellent breaking capacity, superior making capacity, compact & light weight, erected on provided angle iron / G.I. frame and connected with provided leads.	Each	72698	469	73167
5-1-36	Supplying and erecting approved make ON LOAD Four Pole Automatic Transfer Switch suitable for 415V, 50 Hz, 320A capacity conforming to IEC: 60947-1 & IEC: 947-6-1/ IS: 13947-1, with Enclosure, automatic/manual inbuilt Time delay, high transfer speed, excellent breaking capacity, superior making capacity, compact & light weight, erected on provided angle iron / G.I. frame and connected with provided leads.	Each	84851	549	85400
5-1-37	Supplying and erecting approved make ON LOAD Four Pole Automatic Transfer Switch suitable for 415V, 50 Hz, 400A capacity conforming to IEC: 60947-1 & IEC: 947-6-1/ IS: 13947-1, with Enclosure, automatic/manual inbuilt Time delay, high transfer speed, excellent breaking capacity, superior making capacity, compact & light weight, erected on provided angle iron / G.I. frame and connected with provided leads.	Each	100957	549	101506
<u>5.2 IC / MC Distribution Boards/ Mini Feeder Pillar/ street light control panel(SW-DB)</u>					
5-2-1	Supplying and erecting metal clad distribution board approved make 240V. 2 way,16A. per way & neutral bar connector complete erected on iron / G.I. frame / wooden plank or Board as per specification no. SW-SWR/MDB	Each	567	69	636

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-2-2	Supplying and erecting metal clad distribution board approved make 240V 3 way, 16A. per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification No. SW-SWR/MDB	Each	640	99	739
5-2-3	Supplying and erecting metal clad distribution board approved make 240V, 4 way, 16A. per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification No. SW-SWR/MDB	Each	724	99	823
5-2-4	Supplying and erecting metal clad distribution board approved make 240V. 6 way,16A. per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification no. SW-SWR/MDB	Each	932	99	1031
5-2-5	Supplying and erecting metal clad distribution board approved make 240V. 8 way,16A. per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification no. SW-SWR/MDB	Each	1129	99	1228
5-2-6	Supplying and erecting metal clad distribution board approved make 415/500V, 3 way, 16A. per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification No. SW-SWR/MDB	Each	2803	129	2932
5-2-7	Supplying and erecting metal clad distribution board approved make 415/500V, 4 way, 16A per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification No. SW-SWR/MDB	Each	3088	129	3217
5-2-8	Supplying and erecting metal clad distribution board approved make 415/500V, 6 way, 16A. per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification No. SW-SWR/MDB	Each	3563	129	3692
5-2-9	Supplying and erecting metal clad distribution board approved make 415/500 V, 8 way, 16 A. per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification No. SW-SWR/MDB	Each	4677	129	4806
5-2-10	Supplying and erecting metal clad distribution board approved make 415/500V, 3 way, 32A. per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification No. SW-SWR/MDB	Each	3539	144	3683

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-2-11	Supplying and erecting metal clad distribution board approved make 415/500V, 4 way, 32A. per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification No. SW-SWR/MDB	Each	3698	144	3842
5-2-12	Supplying and erecting metal clad distribution board approved make 415/500V, 6 way, 32A. per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification No. SW-SWR/MDB	Each	4759	144	4903
5-2-13	Supplying and erecting metal clad distribution board approved make 415/500V, 8 way, 32A. per way & neutral bar connector complete erected on iron / G.I. frame/ wooden plank or Board as per specification No. SW-SWR/MDB	Each	6025	144	6169
5-2-14	Supplying and erecting mini feeder pillar triple pole with 200A FPMCCB as incomer and 2 outgoing circuits with HRC Fuse base and Cartridge of 100A consists of aluminium bus bar 500 V 200 A. complete erected in 14 gauge CRCA sheet box with supporting angles, self locks, gasket and slanting top to be erected on provided foundation as per per specification No. SW-SWR/MFP	Each	34328	4660	38988
5-2-15	Supplying and erecting mini feeder pillar triple pole with 300A FPMCCB as incomer and 3 outgoing circuits with HRC Fuse base and Cartridge of 100A consists of aluminium bus bar 500V 300A complete erected in 14 gauge CRCA sheet box with supporting angles, self locks, gasket and slanting top to be erected on provided foundation as per per specification No. SW-SWR/MFP	Each	48910	5279	54189
5-2-16 (New)	Supplying & erecting street light control panel in powder coated CRCA 14/16 SWG sheet, outdoor type, Single phase, 240 Volts consisted of suitable rating contactor, 24 Hrs Digital / Astronomical time switch, SPN MCB 40 Amp, Auto/manual selector switch, ON/OFF push buttons, indicator lamps, control wiring, metering device, etc for automatic operation & overcurrent, short circuit, earth fault protection of street lights upto the max load of 6 kW on provided iron frame/ CC foundation.	Each	22195	938	23133

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-2-17 (New)	Supplying & erecting street light control panel in powder coated CRCA 14/16 SWG sheet, outdoor type, Single phase, 240 Volts consisted of suitable rating contactor, 24 Hrs Digital / Astronomical time switch, SPN MCB 63 Amp , Auto/manual selector switch, ON/OFF push buttons, indicator lamps, control wiring, metering device, etc for automatic operation & overcurrent, short circuit, earth fault protection of street lights upto the max load of 12 kW on provided iron frame / CC foundation.	Each	28298	938	29236
5-2-18 (New)	Supplying & erecting street light control panel in powder coated CRCA 14/16 SWG sheet, outdoor type, three phase, 415 Volts consisted of suitable rating contactor, 24 Hrs Digital / Astronomical time switch, TPN MCB 40 Amp , Auto/manual selector switch, ON/OFF push buttons, indicator lamps, control wiring, metering device, etc for automatic operation & overcurrent, short circuit, earth fault protection of street lights upto the max load of 6 Kw on provided iron frame / CC foundation.	Each	26744	938	27682
5-2-19 (New)	Supplying & erecting street light control panel in powder coated CRCA 14/16 SWG sheet, outdoor type, three phase, 415Volts consisted of suitable rating contactor, 24 Hrs Digital/ Astronomical time switch, TPN MCB 63 Amp , Auto/manual selector switch, ON/OFF push buttons, indicator lamps, control wiring, metering device, etc for automatic operation & overcurrent, short circuit, earth fault protection of street lights upto the max load of 12 kW on provided iron frame / CC foundation.	Each	35398	938	36336
5-2-20 (New)	Supplying & erecting street light control panel in powder coated CRCA 14/16 SWG sheet, outdoor type, three phase, 415 Volts consisted of suitable rating contactor, 24 Hrs Digital/ Astronomical time switch, TPN MCB 110 Amp , Auto/manual selector switch, ON/OFF push buttons, indicator lamps, control wiring, metering device, etc for automatic operation & overcurrent, short circuit, earth fault protection of street lights upto the max load of 12 kW on provided iron frame / CC foundation.	Each	57819	938	58757
Note:-	<p>1) For erection of switchgear on existing/provided angle iron frame/wooden board reduce the over all rate by 5%.</p> <p>2) In coastal area preference to iron clad switchgear shall be given.</p> <p>3) For Switchgear without enclosure for cubical panels the rates shall be decreased by 25 % of item no 5-1-16 to 5-1-23</p>				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>5.3 LT - MCBs/ MCB change over switch</u>					
<u>(SW-MCB)</u>					
5-3-1	Supplying, erecting & marking SPMCB 0.5A to 5A in provided distribution board as per specification No. SW-SWR/MCB	Each	234	40	274
5-3-2	Supplying, erecting & marking SPMCB 6A to 32A, C-series (for motor/power) in provided distribution board as per specification No. SW-SWR/MCB	Each	151	40	191
5-3-3	Supplying, erecting & marking SPMCB 6A to 32A, B- series (for lighting) in provided distribution board as per specification No. SW-SWR/MCB	Each	150	40	190
5-3-4	Supplying, erecting & marking SPMCB 40A to 63A C- series (for motor/power) in provided distribution board as per specification No. SW-SWR/MCB	Each	344	40	384
5-3-5	Supplying, erecting & marking SPMCB 40A to 63A, B- series (for lighting) in provided distribution board as per specification No. SW-SWR/MCB	Each	322	40	362
5-3-6	Supplying, erecting & marking DPMCB 6A to 32A, C- series (for motor/power) in provided distribution board as per specification No. SW-SWR/MCB	Each	542	40	582
5-3-7	Supplying, erecting & marking DPMCB 6 A to 32 A B- series (for lighting) in provided distribution board as per specification no. SW-SWR/MCB	Each	498	40	538
5-3-8	Supplying, erecting & marking DPMCB 40A to 63A, C- series (for motor/power) in provided distribution board as per specification No. SW-SWR/MCB	Each	752	40	792
5-3-9	Supplying, erecting & marking DPMCB 40A to 63A, B- series (for lighting) in provided distribution board as per specification No. SW-SWR/MCB	Each	697	40	737
5-3-10	Supplying, erecting & marking SPN MCB 6A to 32A, C- series (for motor/power) in provided distribution board as per specification No. SW-SWR/MCB	Each	500	40	540
5-3-11	Supplying, erecting & marking SPN MCB 6A to 32A, B- series (for lighting) in provided distribution board as per specification No. SW-SWR/MCB	Each	444	40	484
5-3-12	Supplying, erecting & marking SPN MCB 40A, C-series (for motor/power) in provided distribution board as per specification No. SW-SWR/MCB	Each	704	40	744

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-3-13	Supplying, erecting & marking SPN MCB 40A, B-series (for lighting) in provided distribution board as per specification No. SW-SWR/MCB	Each	631	40	671
5-3-14	Supplying, erecting & marking TPMCB 6 A to 32A in provided distribution board as per specification No. SW-SWR/MCB	Each	827	55	882
5-3-15	Supplying, erecting & marking TPMCB 40A to 63A in provided distribution board as per specification No. SW-SWR/MCB	Each	1109	55	1164
5-3-16	Supplying, erecting & marking FPMCB 6A to 32A in provided distribution board as per specification No. SW-SWR/MCB	Each	1150	55	1205
5-3-17	Supplying, erecting & marking FPMCB 40A to 63A in provided distribution board as per specification No. SW-SWR/MCB	Each	1506	55	1561
5-3-18	Supplying, erecting & marking TPN MCB 6A to 32A, C- series in provided distribution board as per specification No. SW-SWR/MCB	Each	1060	55	1115
5-3-19	Supplying, erecting & marking TPN MCB 40A to 63A, C- Series in provided distribution board as per specification No. SW-SWR/MCB	Each	1397	55	1452
5-3-20	Supplying erecting and marking double pole isolator only switch version of miniature circuit breaker (Conforming to IS:8828 of1996) of 40A with required wiring connections and lugs etc. in provided distribution board.	Each	323	40	363
5-3-21	Supplying erecting and marking triple pole isolators only switch version of miniature circuit breaker of 40A with required wiring connections and lugs etc. in provided distribution board.	Each	601	55	656
5-3-22	Supplying erecting and marking Triple pole isolators only switch version of miniature circuit breaker of 63A with required wiring connections and lugs etc. in provided distribution board.	Each	683	55	738
5-3-23	Supplying erecting and marking Triple pole isolators only switch version of miniature circuit breaker of 100A with required wiring connections and lugs etc. in provided distribution board.	Each	785	55	840
5-3-24	Supplying erecting and marking Four pole isolators only switch version of miniature circuit breakers of 40A in provided distribution board.	Each	745	55	800
5-3-25	Supplying erecting and marking Four pole isolators only switch version of miniature circuit breakers of 63A in provided distribution board.	Each	769	55	824

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-3-26	Supplying erecting and marking Four pole isolators only switch version of miniature circuit breakers of 80/100A in provided distribution board.	Each	909	55	964
5-3-27 (New)	Supplying, fixing and commissioning MCB type change over switch 2 Pole, 25 Amps with 3 positions (I-O-II) with centre off position as per specification No. SW-SWR/MCBCOS	Each	1396	40	1436
5-3-28 (New)	Supplying, fixing and commissioning MCB type change over switch 2 Pole, 40 Amps with 3 positions (I-O-II) with centre off position as per specification No. SW-SWR/MCBCOS	Each	2105	40	2145
5-3-29 (New)	Supplying, fixing and commissioning MCB type change over switch 2 Pole, 63 Amps with 3 positions (I-O-II) with centre off position as per specification No. SW-SWR/MCBCOS	Each	2443	40	2483
5-3-30 (New)	Supplying, fixing and commissioning MCB type change over switch 4 Pole,25Amps with 3 positions (I-O-II) with centre off position as per specification No. SW-SWR/MCBCOS	Each	2429	55	2484
5-3-31 (New)	Supplying, fixing and commissioning MCB type change over switch 4 Pole,40Amps with 3 positions (I-O-II) with centre off position as per specification No. SW-SWR/MCBCOS	Each	3775	55	3830
5-3-32 (New)	Supplying, fixing and commissioning MCB type change over switch 4 Pole, 63Amps with 3 positions (I-O-II) with centre off position as per specification No. SW-SWR/MCBCOS	Each	4173	55	4228
Note:-	<p>1) For lighting load 'B' series MCBs are to be provided and for motive/inductive power load 'C' series MCB s are to be provided</p> <p>2) For heavy duty motors, welding transformers and machines having heavy surge current MCB of 'D' type series should be provided for which rates are to be taken by increasing 10% on the material cost of rates of 'C' series</p> <p><u>5.4 LT - MCBDBs (SW-MCBDB)</u></p>				
5-4-1	Supplying & erecting triple pole and neutral distribution board (TPNDB) surface/ flush mounted, suitable for SPMCB of 12 ways , on iron / G.I. frame/wooden board.(Horizontal type) as per specification No. SW-SWR/MCBDB	Each	1948	298	2246
5-4-2	Supplying & erecting triple pole and neutral distribution board (TPNDB) surface/ flush mounted suitable for SPMCB of 24 ways , on iron / G.I. frame/wooden board.(Horizontal type) as per specification No. SW-SWR/MCBDB	Each	2618	298	2916

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-4-3	Supplying & erecting triple pole and neutral distribution board (TPNDB) surface/ flush mounted suitable for SPMCB of 36 ways , on iron / G.I. frame/wooden board.(Horizontal type) as per specification No. SW-SWR/MCBDB	Each	3444	298	3742
5-4-4	Supplying & erecting triple pole and neutral distribution board (TPNDB) surface/ flush mounted SP /TP MCBs of total 12 ways , on iron / G.I. frame/wooden board.(Vertical Busbar type) as per specification No. SW-SWR/MCBDB	Each	4172	298	4470
5-4-5	Supplying & erecting triple pole and neutral distribution board (TPNDB) surface/ flush mounted SP / TP of total 24 ways on iron / G.I. frame/wooden board. (Vertical Busbar type) as per specification No. SW-SWR/MCBDB	Each	5616	298	5914
5-4-6	Supplying & erecting triple pole and neutral distribution board (TPNDB) surface/ flush mounted SP / TP MCB of total 36 ways on iron / G.I. frame/wooden board (Vertical Busbar type) as per specification No. SW-SWR/MCBDB	Each	7135	298	7433
5-4-7	Supplying & erecting triple pole and neutral distribution board (TPNDB) with door surface/ flush mounted SPMCB of 12 ways , on iron / G.I. frame/wooden board.(Horizontal type) as per specification No. SW-SWR/MCBDB	Each	2520	298	2818
5-4-8	Supplying & erecting triple pole and neutral distribution board (TPNDB) with door surface/ flush mounted SPMCB of 24 ways , on iron/ G.I. frame/wooden board.(Horizontal type) as per specification No. SW-SWR/MCBDB	Each	3780	298	4078
5-4-9	Supplying & erecting triple pole and neutral distribution board (TPNDB) with door surface/ flush mounted SPMCB of 12 ways/phase (36 Poles) on iron/ G.I. frame/wooden board. (Horizontal Busbar type) as per specification no. SW-SWR/MCBDB	Each	5144	298	5442
5-4-10	Supplying & erecting triple pole and neutral distribution board (TPNDB) with door surface/ flush mounted SP / TP MCBs total 12 ways , on iron/ G.I. frame/wooden board.(Vertical Busbar type) as per specification No. SW-SWR/MCBDB	Each	5438	298	5736
5-4-11	Supplying & erecting triple pole and neutral distribution board (TPNDB) with door surface/ flush mounted SP / TP MCBs 24 Poles on iron/ G.I. frame/wooden board. (Vertical Busbar type) as per specification No.	Each	6895	298	7193

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
SW-SWR/MCBDB					
5-4-12	Supplying & erecting triple pole and neutral distribution board (TPNDB) with door surface/ flush mounted SP / TP MCBs of total 36 ways on iron/ G.I. frame/wooden board. (Vertical Busbar type) as per specification No. SW-SWR/MCBDB	Each	8303	298	8601
5-4-13	Supplying, erecting and marking enclosure Single pole and neutral distribution board (SPNDB) one way for SPMCB 1 No on iron/ G.I. frame/wooden board as per specification No. SW-SWR/MCBDB	Each	218	54	272
5-4-14	Supplying and erecting single pole and neutral distribution board (SPNDB) surface/flush mounted with 2 ways for incoming and 2 ways for outgoing SPMCBs on iron/ G.I. frame/wooden board, as per specification no. SW-SWR/MCBDB	Each	710	144	854
5-4-15	Supplying and erecting single pole and neutral distribution board (SPNDB) surface/flush mounted with 2 ways for incoming and 6 ways for outgoing SP MCB's on iron/ G.I. frame/wooden board as per specification No. SW-SWR/MCBDB	Each	833	144	977
5-4-16	Supplying and erecting single pole and neutral distribution board (SPNDB) surface/flush mounted with 2 ways for incoming and 10 ways for outgoing SP MCB's on iron/ G.I. frame/wooden board as per specification No. SW-SWR/MCBDB	Each	1043	144	1187
5-4-17	Supplying and erecting single pole and neutral distribution board (SPNDB) with door surface/flush mounted with 2 ways for incoming and 2 ways for outgoing SP MCB's on iron/ G.I. frame/wooden board as per specification No. SW-SWR/MCBDB	Each	1035	144	1179
5-4-18	Supplying and erecting single pole and neutral distribution board (SPNDB) with door surface/flush mounted with 2 ways for incoming and 6 ways for outgoing SP MCB's on iron/ G.I. frame/wooden board as per specification No. SW-SWR/MCBDB	Each	1286	144	1430
5-4-19	Supplying and erecting single pole and neutral distribution board (SPNDB) with door surface/flush mounted with 2 ways for incoming and 10 ways for outgoing SP MCB's on iron/ G.I. frame/wooden board as per specification No. SW-SWR/MCBDB	Each	1602	144	1746

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-4-20	Supplying & erecting original 1.25 mm CRCA sheet metal enclosures with 20A, 2 pin plug & earth socket and 20A, 3 pin plug top with 20A/30A single pole MCB complete erected on angle iron/ G.I. frame.	Each	833	129	962
5-4-21	Supplying & erecting original 1.25 mm CRCA sheet metal enclosures with 30 A, 3 pin plug & earth socket and 30 A 3 pin plug top with 30 A, triple pole MCB complete erected on angle iron/ G.I. frame.	Each	1969	129	2098
5-4-22	Supplying & erecting original 1.25 mm CRCA sheet metal enclosures with 10A, 2 pin plug and earth socket and 10A, 3 pin plug top with 10A single pole miniature circuit breakers complete erected on angle iron/ G.I. frame.	Each	836	129	965
5-4-23	Supplying & erecting CRCA sheet metal one way enclosures suitable for D.P.M.C.B. /T.P. M.C.B. /F.P M.C.B. complete erected on angle iron/ G.I. frame.	Each	391	54	445
5-4-24	Supplying and erecting blanking plate of suitable size on MCB DB	Each	14	2	16
5-4-25	Supplying & erecting triple pole and neutral distribution board (TPNDB) with door surface/ flush mounted suitable for 3 Pole MCCB as Incommer & outgoing SP MCB (12 Poles) or TP MCB of 4 ways (12 Poles) on iron/ G.I. frame. (Vertical Busbar type) as per specification no. SW-SWR/MCBDB1	Each	6419	441	6860
5-4-26	Supplying & erecting triple pole and neutral distribution board (TPNDB) with door surface/ flush mounted suitable for 3 Pole MCCB as Incommer & outgoing SP MCB (24 Poles) or TP MCB of 8 ways (24 Poles) , on iron/ G.I. frame. (Vertical Busbar type) as per specification No. SW-SWR/MCBDB1	Each	7473	441	7914
5-4-27	Supplying & erecting triple pole and neutral distribution board (TPNDB) with door surface/ flush mounted suitable for 3 Pole MCCB as Incommer & outgoing SP MCB (36 Poles) or TP MCB of 12 ways (36 Poles) on iron/ G.I. frame. (Vertical Busbar type) as per specification No. SW-SWR/MCBDB1	Each	7552	441	7993
Note:-	1) All MCB's shall have breaking capacity not less than 10 kA. 2) Above rates are applicable only to factory made enclosures. 3) Reduce overall rates by 5% if angle iron frame / wooden board is not required.				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	<p>4) MCB's (double pole, four pole or triple pole & neutral) & isolators for single phase circuits shall not be incorporated for outgoing circuits of three phase distribution board.</p> <p>5) For more than 2 kW load RCCB shall invariably be provided & erected preferably on the same distribution board. (RCCB+MCB) or (RCCB+MCCB etc.) separate box for RCCB/ELCB is not permissible.</p> <p>6) Above rates are for branded DB's with provision of same brand interior switchgears and if other than branded are used reduce material rate by 10% .</p> <p>7) The MCBDB is exclusive of incoming MCB/MCCB and outgoing SP/TP MCB's and the same should be preferably of the same make</p>				
	<u>5.5 LT - MCCBs (SW-MCCB)</u>				
5-5-1	Providing & erecting 3 Pole MCCB upto 100A, 415V capacity with S.C. rating 25 kA (Ics=100% of Icu) , thermal setting with provided leads on iron /G.I. frame as per specification No. SW-SWR/MCCB	Each	4842	396	5238
5-5-2	Providing & erecting 3 Pole MCCB of 200A,415V capacity with S.C. rating 25 kA (Ics=100% of Icu) thermal and magnetic setting with provided leads on iron /G.I. frame as per specification no. SW-SWR/MCCB	Each	10080	396	10476
5-5-3	Providing & erecting 3 Pole MCCB of 250A,415V capacity with S.C. rating 36 kA (Ics=100% of Icu) ,thermal and magnetic setting with provided leads on iron /G.I.frame as per specification No. SW-SWR/MCCB	Each	13686	576	14262
5-5-4	Providing & erecting 3 Pole MCCB of 315/400A, 415V capacity with S.C. rating 36 kA (Ics=100% of Icu) , thermal and magnetic setting with provided leads on iron/G.I. frame as per specification No. SW-SWR/MCCB	Each	18258	649	18907
5-5-5	Providing & erecting 3 Pole MCCB of 600/630 A, 415V capacity with S.C. rating 36 kA (Ics=100% of Icu) , thermal and magnetic setting with provided leads on iron/G.I. frame as per specification No. SW-SWR/MCCB	Each	27025	819	27844
5-5-6	Providing & erecting 3 Pole MCCB of 800A, 415V capacity with S.C. rating 50 kA , thermal and magnetic setting with provided leads on iron/G.I. frame as per specification No. SW-SWR/MCCB	Each	34731	819	35550

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
Note:-	For use of 4pole MCCB in place of 3pole MCCB add 30% in overall rate of 3 pole MCCB.				
<u>5.6 RCCB / RCBO(SW-RCCB)</u>					
5-6-1	Providing, erecting & commissioning RCCB only of electro magnetic type with 30/100/300 mA sensitivity and having capacity of 16/ 25A. 2 pole complete as per specification No. SW-RCCB/RCCB	Each	2302	40	2342
5-6-2	Providing, erecting & commissioning RCCB only of electro magnetic type with 30/100/300 mA sensitivity and having capacity of 40A 2 pole complete as per specification No. SW-RCCB/RCCB	Each	2395	40	2435
5-6-3	Providing, erecting & commissioning RCCB only of electro magnetic type with 30/100/300 mA sensitivity and having capacity of 63A 2 pole complete as per specification No. SW-RCCB/RCCB	Each	3212	40	3252
5-6-4	Providing, erecting & commissioning RCCB only of electro magnetic typewith 30/100/300 mA sensitivity and having capacity of 16/25A 4 pole complete as per specification No. SW-RCCB/RCCB	Each	2966	55	3021
5-6-5	Providing, erecting & commissioning RCCB only of electro magnetic type with 30/100/300 mA sensitivity and having capacity of 40A. 4 pole complete as per specification No. SW-RCCB/RCCB	Each	3002	55	3057
5-6-6	Providing, erecting & commissioning RCCB of electro magnetic type with 30/100/300 mA sensitivity and having capacity of 63A. 4 pole complete as per specification No. SW-RCCB/RCCB	Each	3351	55	3406
5-6-7	Providing, erecting & commissioning RCCB of electro magnetic type with 30/100/300 mA sensitivity and having capacity of 80A. 4 pole complete as per specification No. SW-RCCB/RCCB	Each	5150	55	5205
5-6-8	Providing, erecting & commissioning approved make RCCB of electro magnetic type with 30/100/300 mA sensitivity and having capacity of 100A, 4 pole complete as per specification No. SW-RCCB/RCCB	Each	5279	55	5334
5-6-9	Deleted				
5-6-10	Deleted				
5-6-11	Deleted				
5-6-12	Deleted				
5-6-13	Deleted				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-6-14	Deleted				
5-6-15	Supplying & fixing CRCA sheet Box with earthing terminals for housing 2 Pole RCCB complete on iron frame/laminated board.	Each	196	30	226
5-6-16	Supplying & fixing CRCA sheet Box with earthing terminals for housing 4 Pole RCCB complete on iron frame/laminated board.	Each	262	30	292
5-6-17 (New)	Supplying, fixing and commissioning RCBO (Residual Current Breaker with Overcurrent Protection) , type AC with 30/100/300 mA sensitivity and having capacity of 6/10/16/20/25A, 2 Pole, 1 Phase as per specification SW-RCCB/RCBO	Each	3840	40	3880
5-6-18 (New)	Supplying, fixing and commissioning RCBO (Residual Current Breaker with Overcurrent Protection) , type AC with 30/100/300 mA sensitivity and having capacity of 32A/40A 2 Pole 1 phase as per specification SW-RCCB/RCBO	Each	4065	40	4105
5-6-19 (New)	Supplying, fixing and commissioning RCBO (Residual Current Breaker with Overcurrent Protection) , type AC with 30/100/300 mA sensitivity and having capacity of 63A, 2 Pole 1 Phase as per specification SW-RCCB/RCBO	Each	5604	40	5644
5-6-20 (New)	Supplying, fixing and commissioning RCBO (Residual Current Breaker with Overcurrent Protection) , type AC with 30/100/300 mA sensitivity and having capacity of 6A/10A/16A/20A/25/A 4 Pole 3 phase as per specification SW-RCCB/RCBO	Each	5093	55	5148
5-6-21 (New)	Supplying, fixing and commissioning RCBO (Residual Current Breaker with Overcurrent Protection) , type AC with 30/100/300 mA sensitivity and having capacity of 32A/40A 4 Pole 3 phase as per specification SW-RCCB/RCBO	Each	5274	55	5329
5-6-22 (New)	Supplying, fixing and commissioning RCBO (Residual Current Breaker with Overcurrent Protection) , type AC with 30/100/300 mA sensitivity and having capacity of 63A 4 Pole 3 phase as per specification SW-RCCB/RCBO	Each	6199	55	6254
Note:-	For human safety RCCB with 30mA sensitivity shall be selected.				
	5.7 <u>MCCB Panel Boards and Accessories</u> (SW- SWR-MCCBPB)				
5-7-1	Providing & erecting Floor / Wall mounting, MCCB Panel board suitable for Four Pole Incoming 250A, 2 ways Four pole outgoing on provided iron frame, as per Specification No SW-SWR/MCCBPB .(Excluding MCCB'S)	Each	40387	750	41137

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-7-2	Providing & erecting Floor / Wall mounting, MCCB Panel board suitable for Four Pole Incoming 250A, 4 ways Four pole outgoing on provided iron frame, as per Specification No SW-SWR/MCCBPB . (Excluding MCCB'S)	Each	46357	750	47107
5-7-3	Providing & erecting Floor / Wall mounting, MCCB Panel board suitable for Four Pole Incoming 250A, 6 ways Four pole outgoing on provided iron frame, as per Specification No SW-SWR/MCCBPB . (Excluding MCCB'S)	Each	53086	959	54045
5-7-4	Providing & erecting Floor / Wall mounting, MCCB Panel board suitable for Four Pole Incoming 250A, 8 ways Four pole outgoing on provided iron frame, as per Specification No SW-SWR/MCCBPB . (Excluding MCCB'S)	Each	60378	959	61337
5-7-5	Providing & erecting Floor / Wall mounting, MCCB Panel board suitable for Four Pole Incoming 250A, 12 ways Four pole outgoing erected on provided iron frame, as per Specification No SW-SWR/MCCBPB . (Excluding MCCB'S)	Each	74711	1087	75798
5-7-6	Providing & erecting Floor / Wall mounting, MCCB Panel board suitable for Four Pole Incoming 400A, 2 ways Four pole outgoing on provided iron frame, as per Specification No SW-SWR/MCCBPB . (Excluding MCCB'S)	Each	49958	750	50708
5-7-7	Providing & erecting Floor / Wall mounting, MCCB Panel board suitable for Four Pole Incoming 400A, 4 ways Four pole outgoing on provided iron frame, as per Specification No SW-SWR/MCCBPB . (Excluding MCCB'S)	Each	55797	750	56547
5-7-8	Providing & erecting Floor / Wall mounting, MCCB Panel board suitable for Four Pole Incoming 400 A, 6 ways Four pole outgoing on provided iron frame, as per Specification No SW-SWR/MCCBPB . (Excluding MCCB'S)	Each	62369	1139	63508
5-7-9	Providing & erecting Floor / Wall mounting, MCCB Panel board suitable for Four Pole Incoming 400A, 8 ways Four pole outgoing on provided iron frame, as per Specification No SW-SWR/MCCBPB . (Excluding MCCB'S)	Each	67650	959	68609
5-7-10	Providing & erecting Floor / Wall mounting, MCCB Panel board suitable for Four Pole Incoming 400A, 12 ways Four pole outgoing on provided iron frame, as per Specification No SW-SWR/MCCBPB . (Excluding MCCB'S)	Each	92257	1087	93344
5-7-11	Providing & erecting Incoming and Outgoing Cable Alleys suitable for MCCB panel board of 250A incoming and 2 way outgoing made from CRCA sheet 1.6 mm thick duly powder coated and having vertical insulated partition for shielding between the shared face of cableway	Set	16009	276	16285

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-7-12	and basic DB. Providing & erecting Incoming and Outgoing Cable Alleys suitable for MCCB panel board of 250A incoming and 4 way outgoing or 400A incoming and 2 way outgoing made from CRCA sheet 1.6 mm thick duly powder coated and having vertical insulated partition for shielding between the shared face of cableway and basic DB.	Set	16174	276	16450
5-7-13	Providing & erecting Incoming and Outgoing Cable Alleys suitable for MCCB panel board of 250A incoming and 6 way outgoing or 400A incoming and 4 way outgoing made from CRCA sheet 1.6 mm thick duly powder coated and having vertical insulated partition for shielding between the shared face of cableway and basic DB.	Set	18953	276	19229
5-7-14	Providing & erecting Incoming and Outgoing Cable Alleys suitable for MCCB panel board of 250A incoming and 8 way outgoing or 400A incoming and 6 way outgoing made from CRCA sheet 1.6 mm thick duly powder coated and having vertical insulated partition for shielding between the shared face of cableway and basic DB.	Set	21280	276	21556
5-7-15	Providing & erecting Incoming and Outgoing Cable Alleys suitable for MCCB panel board of 250A incoming and 12 way outgoing or 400A incoming and 6/8 way outgoing made from CRCA sheet 1.6 mm thick duly powder coated and having vertical insulated partition for shielding between the shared face of cableway and basic DB.	Set	24558	276	24834
5-7-16	Providing & erecting Incoming and Outgoing Cable Alleys suitable for MCCB panel board of 400A incoming and 12 way outgoing made from CRCA sheet 1.6 mm thick duly powder coated and having vertical insulated partition for shielding between the shared face of cableway and basic DB.	Set	27844	276	28120
5-7-17	Providing & erecting Prewired meter module suitable for MCCB panel board with CT's and emf's vif meter.	Set	13807	289	14096
Note:-	<p>1) The MCCB panel board and cable alleys from above items are interconnected and should be of same make only and factory made only</p> <p>2) The MCCB panel board is exclusive of incoming and outgoing MCCB's and the same should be preferably of the same make</p>				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5.8 LT - Air Circuit Breakers (SW-ACB)					
5-8-1	Deleted				
5-8-2	Supplying and erecting Air circuit breaker manually operated non-drawout type of 630A , 500V, 3 pole having S.C. rating 50 kA (Ics=Icu=Icw for 1s),with standard accessories on provided iron frame as per specification No. SW-SWR/ACB	Each	62607	1815	64422
5-8-3	Supplying and erecting Air circuit breaker manually operated non-drawout type of 800A , 500V, 3 pole with having S.C. rating 50 kA (Ics=Icu=Icw for 1s), standard accessories on provided iron frame as per specification No. SW-SWR/ACB	Each	65113	1815	66928
5-8-4	Supplying and erecting Air circuit breaker manually operated non-drawout type of 1000A , 500V, 3 pole having S.C. rating 50 kA (Ics=Icu=Icw for 1s), with standard accessories on provided iron frame as per specification No. SW-SWR/ACB	Each	68928	1988	70916
5-8-5	Supplying and erecting Air circuit breaker manually operated non-drawout type of 1600A , 500V, 3 pole having S.C. rating 50 kA (Ics=Icu=Icw for 1s), with standard accessories on provided iron frame as per specification No. SW-SWR/ACB	Each	97323	3059	100382
5-8-6	Supplying and erecting Air circuit breaker manually operated drawout type of 800A , 500V, 3 pole having S.C. rating 50 kA (Ics=Icu=Icw for 1s), with standard accessories on provided iron frame as per specification No. SW-SWR/ACB	Each	134638	1702	136340
5-8-7	Supplying and erecting Air circuit breaker manually operated drawout type of 1000A , 500V, 3 pole having S.C. rating 50 kA (Ics=Icu=Icw for 1s), with standard accessories on provided iron frame as per specification No. SW-SWR/ACB	Each	144056	3332	147388
5-8-8	Supplying and erecting Air circuit breaker manually operated drawout type of 1600A , 500V, 3 pole having S.C. rating 50 kA (Ics=Icu=Icw for 1s),with standard accessories on provided iron frame as per specification No. SW-SWR/ACB	Each	189487	2963	192450
5-8-9	Supplying and erecting Air circuit breaker manually operated drawout type of 1250 A , 500V, 3 pole having S.C. rating 50 kA (Ics=Icu=Icw for 1s), with standard accessories on provided iron frame as per specification No. SW-SWR/ACB	Each	136785	2963	139748

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-8-10	Supplying and erecting Air circuit breaker manually operated Non drawout type of 1250A , 500V, 3 pole having S.C. rating 50 kA (Ics=Icu=Icw for 1s), with standard accessories on provided iron frame as per specification No. SW-SWR/ACB	Each	131072	2963	134035
Note:-	For electrical drawout type ACB for item no from 5-8-6 to 5-8-9 increase overall rates by 35%				
<u>5.9 HT SF6 Load Break Switch /VCB/RMU (SW-HTS)</u>					
5-9-1	Supplying and erecting approved make extendable / non-extendable Indoor type 11 kV, 630A, load break switch with fuses of required rating, on provided MS channels / trench / foundation in an approved manner as per specification no SW-HTS / LBS	Each	151750	12067	163817
5-9-2	Supplying and erecting approved make extendable / non-extendable Indoor type 22 kV, 630A, load break switch with fuses of required rating, on provided MS channels / trench / foundation in an approved manner as per specification no SW-HTS / LBS	Each	300485	12067	312552
5-9-3	Supplying and erecting approved make extendable / non-extendable Outdoor type 11 kV 630A, Load break Isolator switch on provided MS channels / trench / foundation in an approved manner as per specification no SW-HTS / LBS	Each	152587	12067	164654
5-9-4	Supplying and erecting approved make extendable / non-extendable Outdoor type 22 kV 630A, load break Isolator switch on provided MS channels / trench / foundation in an approved manner as per specification no SW-HTS / LBS	Each	286862	12067	298929
5-9-5	Supplying and erecting approved make 11 kV 400A, Oil Switch-Fuse unit extendable/non-extendable on provided MS channels / trench / foundation in an approved manner as per specification no SW-HTS / LBS	Each	164793	12067	176860
5-9-6	Supplying & erecting 11 kV 630A, Indoor type Ring Main unit with 1or 2 Incoming & 2 or 1 Outgoing with HRC fuses complete erected on provided cc foundation/MS channels/trench, etc, in an approved manner as per specification no SW-HTS / RMU	Each	422165	12067	434232

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-9-7	Supplying & erecting 22 kV 630A, Indoor type Ring Main unit with 1or 2 Incoming & 2 or 1 Outgoing with HRC fuses complete erected on provided c c foundation/MS channels/trench, etc, in an approved manner as per specification no SW-HTS / RMU	Each	747295	12067	759362
5-9-8	Supplying and erecting approved make 11kV, 630A, Vacuum Circuit breaker of required rating, on provided MS channels / trench / foundation in an approved manner as per specification no SW-HTS / VCB	Each	647334	12067	659401
5-9-9	Supplying and erecting approved make 22 kV, 630 A, Vacuum Circuit breaker of required rating, on provided MS channels / trench / foundation in an approved manner as per specification no SW-HTS / VCB	Each	1271829	12067	1283896
5-9-10	Supplying and erecting 11kV HRC Fuse 10A to 40 A for load break switch to be fitted with necessary nut bolts and commissioning complete.	Each	4486	81	4567
5-9-11	Supplying and erecting 11 kV HRC Fuse 63A for load break switch to be fitted with necessary nut bolts and commissioning complete.	Each	5972	81	6053
5-9-12	Supplying and erecting 22 kV HRC Fuse 10A to 40A for load break switch to be fitted with necessary nut bolts and commissioning complete.	Each	10208	81	10289
5-9-13	Supplying and erecting 22 kV HRC Fuse 63A for load break switch to be fitted with necessary nut bolts and commissioning complete.	Each	10894	81	10975
5-9-14 (New)	Supplying , erecting, testing & commissioning 11kV, 630A, 21kA/3sec, 1Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co. specification consisting of 1No. feeder with VCB. <1VCB> as per specifaation no. SW-HTS / RMU SCADA	Each	345853	12067	357920
5-9-15 (New)	Supplying , erecting, testing & commissioning 11kV, 630A, 21kA/3sec, 1Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co. specification consisting of 1No. feeder with 1LBS. <1LBS> as per specifaation no. SW-HTS / RMU SCADA	Each	234477	12067	246544
5-9-16 (New)	Supplying , erecting, testing & commissioning 11kV, 630A, 21kA/3sec, 2Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co. specification consisting of 1No. feeder with Load Break Switch and 1No. feeder with VCB. <1LBS +1VCB+M> as per specifaation no. SW-HTS /	Each	525837	12067	537904

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-9-17 (New)	RMU SCADA Supplying , erecting, testing & commissioning 11kV, 630A, 21kA/3sec, 3Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co. specification consisting of 2Nos. feeder with Load Break Switch and 1No. feeder with VCB. <2LBS +1VCB+M> as per specifaation no. SW-HTS / RMU SCADA	Each	643673	12067	655740
5-9-18 (New)	Supplying , erecting, testing & commissioning 11kV, 630A, 21kA/3sec, 4Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co. specification consisting of 2Nos. feeder with Load Break Switch and 2Nos. feeder with VCB. <2LBS +2VCB+M> as per specifaation no. SW-HTS / RMU SCADA	Each	892265	12067	904332
5-9-19 (New)	Supplying , erecting, testing & commissioning 11kV, 630A, 21kA/3sec, 5Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co. specification consisting of 2Nos. feeder with Load Break Switch and 3Nos. feeder with VCB. <2LBS +3VCB+M> as per specifaation no. SW-HTS / RMU SCADA	Each	1155604	12067	1167671
5-9-20 (New)	Supplying , erecting, testing & commissioning 11kV, 630A, 21kA/3sec, 6Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co. specification consisting of 2Nos. feeder with Load Break Switch and 4Nos. feeder with VCB. <2LBS +4VCB+M> as per specifaation no. SW-HTS / RMU SCADA	Each	1488730	12067	1500797
5-9-21 (New)	Supplying , erecting, testing & commissioning 11kV, 630A, 21kA/3sec, 3Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co. specification consisting of 1No. feeder with Load Break Switch and 2Nos. feeder with VCB. <1LBS +2VCB+M> as per specifaation no. SW-HTS / RMU SCADA	Each	776211	12067	788278
5-9-22 (New)	Supplying , erecting, testing & commissioning 22kV, 630A, 16kA/3sec, 1Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co. specification consisting of 1No. feeder with VCB. <1VCB> as per specifaation no. SW-HTS / RMU SCADA	Each	397532	12067	409599

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-9-23 (New)	Supplying , erecting, testing & commissioning 22kV, 630A, 16kA/3sec, 1Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co. specification consisting of 1No. feeder with 1LBS. <1LBS> as per specifaation no. SW-HTS / RMU SCADA	Each	275240	12067	287307
5-9-24 (New)	Supplying , erecting, testing & commissioning 22kV, 630A, 16kA/3sec, 2Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co. specification consisting of 1No. feeder with Load Break Switch and 1No. feeder with VCB. <1LBS +1VCB+M> as per specifaation no. SW-HTS / RMU SCADA	Each	653697	12067	665764
5-9-25 (New)	Supplying , erecting, testing & commissioning 22kV, 630A, 16kA/3sec, 3Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co specification consisting of 2Nos. feeder with Load Break Switch and 1No. feeder with VCB. <2LBS +1VCB+M> as per specifaation no. SW-HTS / RMU SCADA	Each	808956	12067	821023
5-9-26 (New)	Supplying , erecting, testing & commissioning 22kV, 630A, 16kA/3sec, 4Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co specification consisting of 2Nos. feeder with Load Break Switch and 2Nos. feeder with VCB. <2LBS +2VCB+M> as per specifaation no. SW-HTS / RMU SCADA	Each	1122814	12067	1134881
5-9-27 (New)	Supplying , erecting, testing & commissioning 22kV, 630A, 16kA/3sec, 5Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co specification consisting of 2Nos. feeder with Load Break Switch and 3Nos. feeder with VCB. <2LBS +3VCB+M> as per specifaation no. SW-HTS / RMU SCADA	Each	1452533	12067	1464600
5-9-28 (New)	Supplying , erecting, testing & commissioning 22kV, 630A, 16kA/3sec, 6Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co specification consisting of 2Nos. feeder with Load Break Switch and 4Nos. feeder with VCB. <2LBS +4VCB+M> as per specifaation no. SW-HTS / RMU SCADA	Each	1876543	12067	1888610

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-9-29 (New)	Supplying , erecting, testing & commissioning 22kV, 630A, 16kA/3sec, 3Way Outdoor, Extensible motorised SCADA compatible RMU as per Electric Supply Co specification consisting of 1No. feeder with Load Break Switch and 2Nos. feeder with VCB. <1LBS +2VCB+M> as per specifiataion no. SW-HTS / RMU SCADA 1) The above items are for Indoor installation with IP 55 Protection Class.	Each	970452	12067	982519
Note:-	2) For outdoor installations IP 65 Protection Class is to be proposed by increasing overall rates by 10%.				
	5.10 Accessories (SW-AS)				
5-10-1	Supplying and erecting porcelain base iron clad cut out of H.C. type 415V 16A approved make erected on polished wooden block.	Each	110	53	163
5-10-2	Supplying and erecting Iron clad cut out H.C. type 415V 32A approved make erected on polished wooden block.	Each	157	53	210
5-10-3	Supplying and erecting Iron clad cut out H.C. type 415V 63A approved make erected on polished wooden block.	Each	343	53	396
5-10-4	Supplying and erecting Iron clad cut out H.C. type 415V 100A approved make erected on polished wooden block.	Each	716	53	769
5-10-5	Supplying and erecting Iron clad cut out H.C. type 415V 200A approved make erected on polished wooden block.	Each	1351	53	1404
5-10-6	Supplying and erecting H.C. pattern porcelain fuse bridges with base & HC type fuse links 240V 16A approved make erected on polished wooden block.	Each	56	53	109
5-10-7	Supplying and erecting H.C. pattern porcelain fuse bridges with base & HC type fuse links 240V 32A approved make erected on polished wooden block.	Each	109	53	162
5-10-8	Supplying & erecting fuse bridge with base 16A erected on provided switch board in approved manner.	Each	58	53	111
5-10-9	Supplying & erecting fuse bridges with base H.C. type fuse links 240V 63A erected on polished wooden block.	Each	131	53	184
5-10-10	Supplying & erecting fuse bridges with base H.C. type fuse links 415V 100A erected on polished wooden block.	Each	774	53	827
5-10-11	Supplying & erecting fuse bridges with base H.C. type fuse links 415V 200A erected on polished wooden block.	Each	870	53	923
5-10-12	Supplying & erecting fuse bridges with base H.C. type fuse links 415V 300A erected on	Each	1068	53	1121

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	polished wooden block.				
5-10-13	Supplying and erecting bakelite fuse fitting suitable for HRC bolted type fuse up to 32A without fuse.	Each	68	26	94
5-10-14	Supplying and erecting bakelite fuse fitting suitable for HRC bolted type fuse up to 63A without fuse.	Each	117	26	143
5-10-15	Supplying and erecting bakelite fuse fitting suitable for HRC bolted type fuse up to 100A without fuse.	Each	265	26	291
5-10-16	Supplying & erecting ISI marked HRC fuse cartridge 415V 32A	Each	65	26	91
5-10-17	Supplying & erecting ISI marked HRC fuse cartridge 415V 63 A	Each	81	26	107
5-10-18	Supplying & erecting ISI marked HRC fuse cartridge 415V 100A	Each	171	26	197
5-10-19	Supplying & erecting ISI marked HRC fuse cartridge 415V 200A	Each	227	26	253
5-10-20	Supplying & erecting ISI marked HRC fuse cartridge 415V 300A	Each	340	26	366
5-10-21	Supplying & erecting ISI marked HRC fuse cartridge 415V 400A	Each	668	26	694
5-10-22	Supplying & erecting approved make 415V 16A porcelain base neutral link complete erected in provided M.S. box.	Each	51	26	77
5-10-23	Supplying & erecting approved make 415V 32A porcelain base neutral link complete erected in provided M.S. box.	Each	59	26	85
5-10-24	Supplying & erecting approved make 415V 63A porcelain base neutral link complete erected in provided M.S. box.	Each	83	26	109
5-10-25	Supplying & erecting approved make 415V 100A porcelain base neutral link complete erected in provided M.S. box.	Each	178	26	204
5-10-26	Supplying & erecting approved make porcelain/epoxy bus bar support complete erected in provided M.S. box for 100A	Each	33	26	59
5-10-27	Supplying & erecting approved make porcelain/epoxy bus bar support complete erected in provided M.S. box for 200/300A	Each	55	26	81
5-10-28	Supplying & erecting approved make porcelain/epoxy bus bar support complete erected in provided M.S. box for 400A	Each	73	26	99
5-10-29	Supplying & erecting approved make 415V 200A porcelain base neutral link complete erected in provided M.S. box.	Each	288	51	339

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5.11 Accessories for MCCBs					
5-11-1	Supplying and erecting terminal spreaders for use on MCCB incoming and outgoing terminals for 3 pole upto 100A MCCB.	Each	150	30	180
5-11-2	Supplying and erecting terminal spreaders for use on MCCB incoming and outgoing terminals for 3 pole upto 250A MCCB.	Each	926	30	956
5-11-3	Supplying and erecting terminal spreaders for use on MCCB incoming and outgoing terminals for 3 pole 300A- 400A MCCB.	Each	1904	30	1934
5-11-4	Supplying and erecting terminal spreaders for use on MCCB incoming and outgoing terminals for 3 pole 630A MCCB.	Each	2131	30	2161
5-11-5	Supplying and erecting terminal spreaders for use on MCCB incoming and outgoing terminals for 3 pole upto 800A MCCB.	Each	3715	30	3745
5-11-6	Supplying and erecting terminal spreaders for use on MCCB incoming and outgoing terminals for 4 pole upto 100A MCCB.	Each	257	36	293
5-11-7	Supplying and erecting terminal spreaders for use on MCCB incoming and outgoing terminals for 4 pole above 100A upto 250A MCCB.	Each	1235	36	1271
5-11-8	Supplying and erecting terminal spreaders for use on MCCB incoming and outgoing terminals for 4 pole above 250A upto 400A MCCB.	Each	2732	36	2768
5-11-9	Supplying and erecting terminal spreaders for use on MCCB incoming and outgoing terminals for 4 pole above 400A upto 630A MCCB.	Each	3211	36	3247
5-11-10	Supplying and erecting terminal spreaders for use on MCCB incoming and outgoing terminals for 4 pole above 630A upto 800A MCCB.	Each	5058	36	5094
5-11-11	Supplying and erecting earth fault module for MCCB with adjustable earth fault sensitivity selection 10% to 50% of nominal current (In) and adjustable time delay 100/200 millisecond suitable for upto 200A MCCB with inbuilt CT's.	Each	6140	30	6170
5-11-12	Supplying and erecting earth fault module for MCCB with adjustable earth fault sensitivity selection 10% to 50% of nominal current (In) and adjustable time delay 100/200 millisecond suitable for above 200A upto 400A MCCB with inbuilt CT's.	Each	7960	30	7990
5-11-13	Supplying and erecting earth fault module for MCCB with adjustable earth fault sensitivity selection 10% to 50% of nominal current (In) and adjustable time delay 100/200 millisecond suitable for above 400A upto 800A MCCB excluding CT's.	Each	5914	30	5944

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
5-11-14	Supplying and erecting extended rotary handle for MCCB with adjustable telescopic rod suitable for upto 250A MCCB .	Each	1372	30	1402
5-11-15 (NEW)	Supplying and erecting extended rotary handle for MCCB with adjustable telescopic rod suitable for above 250A upto 630A MCCB .	Each	1430	30	1460
5-11-16	Supplying and erecting extended rotary handle for MCCB with adjustable telescopic rod suitable above 630A upto 800A MCCB .	Each	3276	30	3306
5-11-17	Supplying and erecting SS enclosure for MCCB suitable for upto 100A MCCB .	Each	736	30	766
5-11-18	Supplying and erecting SS enclosure for MCCB suitable for 125A to 200A MCCB .	Each	1374	30	1404
5.12 Dismantling					
5-12-1	Dismantling the existing switchgears, DB, and Bus bar of any size complete with/ without board or angle iron frame	Each	0	90	90
5-12-2	Making the site clear of dismantled DB and switch gears by refilling the holes with cement mortar & finishing in an approved manner.	Each	8	58	66
5-12-3	Dismantling existing OCB, ACB, LBS, VCB complete from existing panel board in an approved manner.	Each	0	1247	1247
Note:- The rates for item no 5.12.1 to 5.12.3 are for dismantling and handing over to section office inclusive of transportation upto 25 km, between site and section office.					
5-12-4	Dismantling any type of unservicable feeder pillar, Switch gear panel, Capacitor Panel, Metering panel, Bus-bar Panel, Electronic Equipment Panel, etc. and remaking the site good as original. Approx. size (upto 150 cm x 70 cm x 45 cm) - Small Coupboard	Each	0	1247	1247
5-12-5	Dismantling any type of unservicable feeder pillar, Switch gear panel, Capacitor Panel, Metering panel, Bus-bar Panel, Electronic Equipment Panel, etc. and remaking the site good as original. Approx. size (upto 200cm. x 90 cm x 45 cm and above) - Big Coupboard	Each	0	1871	1871
Note:- If item no.5-12-4 & 5-12-5 are to be used then items 5-12-1 to 5-12-3 of dismantling switchgears shall not be used.					

Chapter 6

CONTROL PANEL (CP)

6.1 Sheets

6.2 Bus bars

(CP-BB)

6.3 Measuring Instruments

6.4 H.T.Metering

6.5 Accessories

6.6 Surge Protective Devices

(CP-SPD)

6.7 Energy Devices (Harmonic Filter, APFC Panel)

(ED/APFC)

Chapter : 6 CONTROL PANEL (CP)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6.1 Sheets					
6-1-1	Providing and fixing sheet metal work in CRCA sheet with fabrication of boxes panel boards etc. including cutting, bending, drilling, welding, rivetting etc. treated with anti-rust treatment and duly power coated or painted with one coat of red lead paint and 2 coats of enamel paint as directed.	kg	167	52	219
	Note:- For the purpose of panel boards above rates shall be inclusive of work along with angle iron work.				
6-1-2	Deleted				
6-1-3	Providing & Fixing G.I. sheet 1.6mm (16 gauge) to be used for fabrication of boxes panel boards etc. including cutting, bending, drilling, welding, rivetting etc. and painting with one coat of red lead paint and 2 coats of enamel paint.	m ²	1876	405	2281
6-1-4	Providing & Fixing G.I. sheet 1.25mm (18gauge) to be used for fabrication of boxes panel boards etc. including cutting, bending, drilling, welding, rivetting etc. and painting with one coat of red lead paint and 2 coats of enamel paint.	m ²	1491	405	1896
6-1-5	Providing & Fixing G.I. sheet 1mm (20 gauge) to be used for fabrication of boxes panel boards etc. including cutting, bending, drilling, welding, rivetting etc. and painting with one coat of red lead paint and 2 coats of enamel paint.	m ²	1195	405	1600
6-1-6	Providing & Fixing G.I. sheet 0.8mm (22 gauge) to be used for fabrication of boxes panel boards etc. including cutting, bending, drilling, welding, rivetting etc. and painting with one coat of red lead paint and 2 coats of enamel paint.	m ²	893	405	1298
6-1-7	Providing & Fixing G.I. sheet 0.6mm (24 gauge) to be used for fabrication of boxes panel boards etc. including cutting, bending, drilling, welding, rivetting etc. and painting with one coat of red lead paint and 2 coats of enamel paint.	m ²	771	405	1176
	Note:- Increase overall rates by 30% if the overall quantity is less than 1 sq. m. for item no. 6-1-3 to 6-1-7.				
6-1-8	Supplying and erecting Acrylic sheet 3 mm thick to be used for covering the CRCA sheet boxes etc. including cutting, drilling, & pasting or fixing with nut bolts/ screws etc. complete.	m ²	1189	209	1398

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-1-9	Supplying and erecting Acrylic sheet 2 mm thick for covering wall entries including cutting drilling and fixing with nut bolts / screws etc. complete.	m ²	739	209	948
6-1-10	Supplying and erecting Hylam sheet/ Ebonite sheet 3 mm thick for covering wall entries including cutting drilling and fixing with nut bolts / screws etc. complete.	m ²	617	209	826
6-1-11	Supplying and erecting Hylam sheet/ Ebonite 6 mm thick for covering wall entries including cutting drilling and fixing with nut bolts / screws etc. complete.	m ²	1208	209	1417
6-1-12	Supplying and erecting Plywood 6 mm thick fixed to wall or on provided panel board with necessary materials such as screws, wall fasteners supports, nuts bolts etc. complete.	m ²	238	145	383
6-1-13	Supplying and erecting Plywood 12 mm thick fixed to wall or on provided panel board with necessary materials such as screws, wall fasteners supports, nuts bolts etc. complete.	m ²	482	145	627
6-1-14	Supplying & pasting Sunmica/ Formica sheet 1 mm thick on provided Plywood of required shade.	m ²	565	145	710
6-1-15	Supplying and erecting marine plywood 18/19 mm thick fixed to wall or on provided panel board with necessary materials such as screws, wall fasteners supports, nuts bolts etc. complete.	m ²	1034	145	1179
6-1-16	Supplying and erecting enamel iron G.I. sheet 1.6mm (16 gauge) caution board of size 200 x 150 mm. as per I.S. 2551 of 1982 in Marathi and Hindi erected at position for medium installation.	Each	74	37	111
6-1-17 (New)	Supplying and erecting enamel iron G.I. sheet 1.6mm (16 gauge) caution board of size 250 x 200 mm. as per I.S. 2551 of 1982 in Marathi and Hindi erected at position for EHV installation.	Each	183	37	220
6-1-18	Supplying and erecting G.I. sheet of 1.25mm (18gauge) size 200 x 150 mm. duly painted with red oxide & enamel paint for displaying the department & date of erection of the electrical installation with approved shade as specified by the authority	Each	39	37	76
6-1-19	Providing and erecting cupboard for enclosing switchgears or for any other purpose made from selected marine plywood planks 19 mm thick duly varnished/ painted from inside and from outside with brass hinges and locking arrangement with suitable lock with duplicate keys. Cupboard duly grouted with suitable size of iron work in wall at the bottom. (Size of	m ²	1671	820	2491

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-1-20	cupboard shall be specified in the estimate) Supplying and erecting Iron, sheet metal work consisting of CRCA Sheets, Various sections of iron, Plates, Chequered Plates, Rods, Bars, MS pipes, etc. for panel board or any other purposes complete with bending, cutting, drilling and welding complete erected at the position with necessary materials duly painted with one coat of red oxide and two coats of enamel paint to match the switchgears or as per directions by the authority	kg	106	29	135
	Note:- Quantity of Iron/sheet metal work shall be considered and worked out as per steel data table.				
6-1-21	Supplying and erecting self locking arrangement with duplicate keys, made of brass duly erected, flush with surface of panel/cupboard.	Each	184	42	226
6-1-22	Supplying and erecting expanded metal jali enclosure made from G.I. square mesh 15 SWG having 20/25 mm square , complete, properly fixed/welded and duly painted with one coat of red oxide and two coats of silver/enamel paint (size of jali or enclosure to be specified in the estimate.)	m2	104	79	183
6-1-23 (New)	Supplying and erecting slotted angles, frames etc. for panel board or any other purposes complete with bending, cutting, drilling and welding complete erected at the position with necessary materials duly painted with one coat of red oxide and two coats of enamel paint to match the switchgears or as per directions by the authority	kg	114	21	135
	6.2 Bus bars (CP-BB)				
6-2-1	Supplying and erecting Bus bar chamber triple pole with neutral with four aluminium bars , 500V, 100A complete as per specification no. CP-BB	m	4288	597	4885
6-2-2	Supplying and erecting Bus bar chamber triple pole with neutral with four aluminium bars , 500V 200A complete as per specification no. CP-BB	m	4587	597	5184
6-2-3	Supplying and erecting Bus bar chamber triple pole with neutral with four aluminium bars , 500V 300A complete as per specification no. CP-BB	m	4786	724	5510
6-2-4	Supplying and erecting Bus bar chamber triple pole with neutral with four aluminium bars , 500V 400A complete as per specification no. CP-BB	m	7631	724	8355

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-2-5	Supplying and erecting Bus bar chamber triple pole with neutral with four aluminium bars , 500V 630A complete as per specification no. CP-BB	m	8825	724	9549
6-2-6	Supplying and erecting Bus bar chamber triple pole with neutral with four aluminium bars , 500V 800A complete as per specification no. CP-BB	m	9621	868	10489
6-2-7	Supplying and erecting Bus bar chamber triple pole with neutral with four Copper bars , 500V, 100A complete as per specification no. CP-BB	m	6942	597	7539
6-2-8	Supplying and erecting Bus bar chamber triple pole with neutral with four Copper bars , 500V 200A complete as per specification no. CP-BB	m	8540	591	9131
6-2-9	Supplying & erecting of required size Electrolyte Copper Flexible Braided bus Patti or bar in bus bar chamber/in panel or any other purpose, suitable for 500 volt with require capacity with 99.9% copper purity with fixing arrangement (like lug or bottle type lug) to both the end with high grade polyolefin insulation sleeve complete as per specification no. BCP-BB	kg	1297	73	1370
Note:-	<p>1) The cross sectional area of Copper Flexible Braided bus or bar shall be designed or considered with 30% more or existing cross sectional area of copper bus Patti</p> <p>2) Measurement shall be done on actual weight basis after fabrication but before erection.</p>				
6-2-10	Supplying & erecting of any size Electrolyte Copper Patti or bar in bus bar chamber / in panel or any other purpose, 500 volt with require capacity with 99.9% copper purity with fixing arrangement (like lug or bottle type lug) to both the end with high grade polyolefin insulation sleeve complete as per specification no. BCP-BB	kg	1116	73	1189
6-2-11	Supplying & erecting of any size Electrolyte Alluminium Patti or bar in bus bar chamber / in panel or any other purpose, 500 volt with require capacity with 99.9% alluminium purity with fixing arrangement (like lug or bottle type lug) to both the end with high grade polyolefin insulation sleeve complete as per specification no. BCP-BB	kg	606	73	679

Note:- Nut, bolts holding the lugs to bus bar shall be of bimetallic/brass/cadmium plated steel.

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6.3 Measuring Instruments					
6-3-1	Supplying and erecting Static energy meter with 240V 50 cycles A.C. supply 5-30 A , ISI mark, accuracy class 1.0 with backlit LCD Display, (measuring & Display kWh, V,I,kW,, six month history of energy & MD in kW) with transparent Hinge Type box complete erected on polished T.W. board duly wired with required size of weather proof PVC wires duly tested by electric supply company.	Each	1858	190	2048
6-3-2	Supplying and erecting Static energy meter with 240V 50 cycles A.C. supply 10-60 A , ISI mark, accuracy class 1.0 with backlit LCD Display, (measuring & Display kWh, V,I,kW,, six month history of energy & MD in kW) with transparent Hinge Type box complete erected on polished T.W. board duly wired with required size of weather proof PVC wires duly tested by electric supply company.	Each	1991	190	2181
6-3-3	Supplying and erecting Static energy meter with 3X240V 50 cycles A.C. supply 10-60 A , ISI mark, accuracy class 1.0 with backlit LCD Display, (measuring & Display kWh ONLY) with transparent Hinge Type box complete erected on polished T.W. board duly wired with required size of weather proof PVC wires duly tested by electric supply company.	Each	5290	255	5545
6-3-4	Supplying and erecting Static Energy meter 440-V 50 100A ISI mark meter with cycles A.C. 3 phase 4 wires LCD/LED Display complete erected on polished T.W. board duly wired with required size of weather proof PVC wires duly tested for class II accuracy by electric supply company.	Each	4910	258	5168
6-3-5	Supplying and erecting LT/CT multifunction DLMS compliance energy meter of accuracy of class 0.5 , 3x240V,50 Hz with optical & RS 232 port, backlit LCD, measures & Displays Trivector Energy, load survey, TOD, tamper detection & logging, power ON /OFF events, instaneous parameters of Rating -/5 Awith display in absence of power complete with zero adjustment & test certificate from manufacturer erected on provided M.S. box and connected to CTs.	Each	8856	510	9366
6-3-6	Deleted				
6-3-7	Deleted				
6-3-8	Deleted				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-3-9	Supplying and erecting HT/CT multifunction DLMS compliance of accuracy of class 0.5 , 3x63.5V,50 Hz with optical & RS 232 port, backlit LCD, measures kWh, kVAh, V,I,kW , 6 months history of energy , load survey, & Displays Trivector Energy, load survey, TOD, tamper detection & logging, power ON /OFF events, instaneous parameters of Rating -/5 Awith display in absence of power complete with zero adjustment & test certificate from manufacturer erected on provided M.S. box.	Each	11287	510	11797
6-3-10	Deleted				
6-3-11	Supplying and erecting panel mounting type digital ammeter having Three and half digit LED display , external C.T. operated, calibrated for suitable to operate on 500V 0to1000A ACAC supply with necessary PVC wire leads and lugs and mounting hardware on provided panel complete with calibration certificate from manufacturer.	Each	1167	255	1422
6-3-12	Supplying and erecting panel mounting type digital voltmeter having Three and half digit LED display , calibrated for 0 to 750V AC suitable to operate on 500V AC supply with necessary PVC wire leads and lugs and mounting hardware on provided panel complete with calibration certificate from manufacturer.	Each	1167	255	1422
6-3-13	Supplying and erecting Intelligent flush mounted panel meter three phase four wire (IPM) input voltage measurement range 50-550 VAC (P-P) 415V,Aux supply 90-300 VAC/DC, CT secondary site selectable 1A / 5A, Flush mounting 96 x 96 mm , CT/ PT site programmable, Flush mounted (96 x 96 mm) meter Constant Wh viewing in LCD Multifunction meters in auto scroll mode with Voltage, current, frequency, Power factor kW,,kVA, kVAR,, KWh,kVAh, kVARh,, phase angle, interrupts, THD, Events (high- low) neutral current with LED Display (excluding CTS) complete with RS 485 communication protocol, class 1 accuracy and wiring connections and mounting hardware on provided panels complete with calibration certificate from manufacture	Each	6574	510	7084

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-3-14	Supplying and erecting Dual Source Intelligent flush mounted panel meter three phase four wire (IPM) 415V CT/ PT site programmable class1 Flush mounted (96 x 96 mm) meter with Voltage, current, frequency, Power factor , ON hours ,kWH, EB and DG set metering with LED Display (excluding CT'S) complete with RS 485 communication protocol, class 1 accuracy and wiring connections and mounting hardware on provided panels complete with calibration certificate from manufacture	Each	3602	510	4112
6-3-15	Supplying and erecting Intelligent flush mounted Maximum Demand Controller panel meter three phase four wire 50-550 V Phase to phase Aux Supply 90-300VAC/DC CT secondary site selectable 1A/5A, CT /PT site programmable, class 1 Flush mounted 96 x 96 mm meter, Datalog 8MB, 4 realy output Time of Day (TOD) 6 slots available, block / sliding window site selectable with V, A, F, kW, kVA, kVA _r , kWh, kVAh,kVA _r h, PF, run hr, Onhr, Intr, Phase angle, THD, events, neutral current, Max Demand (with RTC) viewing in LCD multi function meter with LCD display complete class -1 accuracy with RS 485 communication protocol with wiring connections and mounting hardware on provided panels complete with calibration certificate from manufacturer.	Each	22806	510	23316
6-3-16 (New)	Supplying and erecting single phase 10-60 A NET METER of accuracy class 1.0, 240V, 50Hz, with backlit LCD Display, Optical port (Measures import kWh, export kWh,Net kWh,V,I, kW, 12 months history of energy) with wiring connections and mounting hardware on provided panels complete with calibration certificate from manufacturer.	Each	4708	1827	6535
6-3-17 (New)	Supplying and erecting three phase 10-60 A NET METER DLMS compliance of accuracy class 1.0,3x 240V, 50Hz, with backlit LCD Display, Optical port &RJ 232 port(Measures import kWh, kVAh, export kWh, kVAh,Net kWh, kVAh,V,I, kW, 6 months history of energy) with wiring connections and mounting hardware on provided panels complete with calibration certificate from manufacturer.	Each	10304	1827	12131

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-3-18 (New)	Supplying and erecting AC three phase LT/CT multifunction NET METER DLMS compliance of accuracy class 0.5, 3x 240V, 50Hz, with backlit LCD Display, Optical port & RS 232 port(Measures import kWh, kVAh, export kWh, kVAh, Net kWh, kVAh, V, I, kW, 6 months history of energy, Load survey, TOD, tamper detection & logging, power ON/OFF events, instantaneous parameters of rating -/5A with display in absence of power) with wiring connections and mounting hardware on provided panels complete with calibration certificate from manufacturer.	Each	12227	3145	15372
6-3-19 (New)	Supplying and erecting AC three phase HT/CT multifunction NET METER DLMS compliance of accuracy class 0.5, 3x 63.5V, 50Hz, with backlit LCD Display, Optical port & RS 232 port(Measures import kWh, kVAh, export kWh, kVAh, Net kWh, kVAh, V, I, kW, 6 months history of energy, Load survey, TOD, tamper detection & logging, power ON/OFF events, instantaneous parameters of rating -/5A with display in absence of power) with wiring connections and mounting hardware on provided panels complete with calibration certificate from manufacturer.	Each	14425	5780	20205
Note:-	The provision of CT's shall be made for meters for respective meters. All meters shall be with manufacturers calibration certificate.				
6.4 H.T.Metering					
6-4-1 (NEW)	Supplying, erecting, testing, commissioning 11 KV H.T. metering cubical (Compact Type) approved by MSEDCL/Licensee fabricated with 2mm.(14 SWG) M.S.sheets with supporting angle and channel, painted with powder coating / epoxy paint of required shade copper bus bar size 25x6 mm electronic security lock and heavy duty mechanical lock, with counter meter for measuring no of times the opening of doors, top side cover (C.T.P.T COVER) interlock with meter doors, epoxy coated 3 nos C.T having required ratio between 5/5A to 50/5A , VA10, Class 0.5S, 11000/V3/110/V3 VA 50, class 0.5 epoxy terminal block suitable for provided trivector meter, and provision for incoming and outgoing cables etc complete duly tested by Licensee with necessary Test Certificates and erected on provided plinth/ C.C foundation	Each	129056	30177	159233

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-4-2	Supplying, erecting, testing, commissioning 11 KV H.T. metering cubical (Compact Type) approved by MSEDCL/Licensee fabricated with 2mm.(14 SWG) M.S.sheets with supporting angle and channel, painted with powder coating / epoxy paint of required shade copper bus bar size 25x6 mm electronic security lock and heavy duty mechanical lock, with counter meter for measuring no of times the opening of doors, top side cover (C.T.P.T COVER) interlock with meter doors, epoxy coated 3 nos C.T having required ratio between 75/5A to 100/5A, VA10,Class0.2S, 11000/V3/110/V3 VA 50, class 0.2 epoxy terminal block suitable for provided trivector meter, and provision for incoming and outgoing cables etc complete duly tested by Licensee with necessary Test Certificates and erected on provided plinth/ C.C foundation	Each	134026	30177	164203
6-4-3	Supplying, erecting, testing, commissioning 22 KV H.T. metering cubical (Compact Type) approved by MSEDCL/Licensee fabricated with 2mm.(14 SWG) M.S.sheets with supporting angle and channel, painted with powder coating / epoxy paint of required shade copper bus bar size 25x6 mm electronic security lock and heavy duty mechanical lock, with counter meter for measuring no of times the opening of doors, top side cover (C.T.P.T COVER) interlock with meter doors, epoxy coated 3 nos C.T having required ratio between 5/5A to 25/5A, VA10,Class0.5S, 22000/V3/110/V3 VA 50, class 0.5 epoxy terminal block suitable for provided trivector meter, and provision for incoming and outgoing cables etc complete duly tested by Licensee with necessary Test Certificates and erected on provided plinth/ C.C foundation	Each	141858	30177	172035

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-4-4 (New)	Supplying, erecting, testing, commissioning 22 KV H.T. metering cubical (Compact Type) approved by MSEDCL/Licensee fabricated with 2mm.(14 SWG) M.S.sheets with supporting angle and channel, painted with powder coating / epoxy paint of required shade copper bus bar size 25x6 mm electronic security lock and heavy duty mechanical lock, with counter meter for measuring no of times the opening of doors, top side cover (C.T.P.T COVER) interlock with meter doors, epoxy coated 3 nos C.T having required ratio between 50/5A to 100/5A, VA10,Class0.2S, 22000/V3/110/V3 VA 50, class 0.2 epoxy terminal block suitable for provided trivector meter, and provision for incoming and outgoing cables etc complete duly tested by Licensee with necessary Test Certificates and erected on provided plinth/ C.C foundation	Each	196585	30177	226762
	<u>6.5 Accessories</u>				
6-5-1	Providing and erecting Selector Switch suitable for Voltmeter/Ammeter for 3 phase A.C supply 500V, 50Hz, on provided box / panel and duly connecting with necessary PVC wire leads and lugs.	Each	277	49	326
6-5-2	Providing and erecting L.T. Current Transformer with bar primary 50/5 to 1000/5 ratio with 15VA burden erected in provided CRCA box duly secured with insulating materials connected to the meter with test certificates.	Each	719	49	768
6-5-3	Supplying and erecting 525 V Three phase, 50 cycles, MPP type capacitor having minimum overcurrent capacity of 1.8 In, peak inrush current capacity 300 In and minimum life 150000 hours kVAR bank of metalised polypropylene condensers (MPP) with the standard capacities of 2,3,5,7,10,12.5 and 15 kVAR units of P.F. correction for operation on 3 phase 50 cycles with externally discharging resistances, earthing terminals and built on angle iron or channel iron frame work and provided with terminal cover box complete erected on provided iron bracket or on floor duly tested by licensee	kVAR	413	49	462
6-5-4	Deleted				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-5-5	Supplying and erecting 525 V Three phase, 50 cycles, MPP type capacitor having minimum overcurrent capacity of 1.8 In, peak inrush current capacity 300 In and minimum life 150000 hours kVAR bank of all polypropylene condensers (APP) with the standard capacities of 2,3,5,7,10,12.5 and 15 kVAR units of P.F. correction for operation on 3 phase 50 cycles with externally discharging resistances, earthing terminals and built on angle iron or channel iron frame work and provided with terminal cover box complete erected on provided iron bracket or on floor duly tested by licensee.	kVAR	456	49	505
6-5-6	Supplying and erecting set of 3 pilot lamps all Bakelite with colour glasses with miniature lamps 230 V/250V erected on provided CRCA box with panel type fuses and connected with PVC wires.	Each	724	49	773
6-5-7	Supplying & erecting LED type indicating pilot lamp with LED colours Red / Yellow / Green, 230 / 250V on provided box / panel with necessary material, wiring & connections etc.	Each	270	49	319
6-5-8	Supplying & erecting LED type indicating pilot lamp with LED colour BLUE, 230 / 250 V on provided box / panel with necessary material, wiring & connections etc.	Each	343	49	392
6-5-9	Providing and erecting all bakelite test terminal block with bakelite cover and sealing arrangements erected on provided panel board and connected by the leads of the instrument (This block is to be provided wherever L. T. M. D. meters and RkVAH meters are to be tested.)	Each	540	49	589
Note:-	While selecting the capacitor rated voltage, inrush current capacity, overcurrent capacity and life shall be checked from manufacturer as per specifications mentioned.				
<u>6.6 Surge Protective Devices (CP-SPD)</u>					
6-6-1	Supplying, installation & marking of Surge arrester/ Surge Protection Device at the main distribution board after the incoming breaker of Type 1+2 conforming to IEC 61643- II tested for Imax 100 kA for Single Phase & Neutral as per specification no. CP-SPD	Each	10551	49	10600
6-6-2	Supplying, installation & marking of Surge arrester/ Surge Protection Device at the main distribution board after the incoming breaker of Type 1+2 conforming to IEC 61643- II tested for Imax 100 kA for Three Phase & Neutral as per specification no. CP-SPD	Each	19344	49	19393

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-6-3	Supplying, installtion & marking of Surge arrester/ Surge Protection Device at the main distribution board after the incoming breaker of Type 1+2 conforming to IEC 61643- II tested for Imax 50 kA for single Phase & Neutral as per specification no. CP-SPD	Each	5726	49	5775
6-6-4	Supplying, installtion & marking of Surge arrester/ Surge Protection Device at the main distribution board after the incoming breaker of Type 1+2 conforming to IEC 61643- II tested for Imax 50 kA for Three Phase & Neutral as per specification no. CP-SPD	Each	11196	49	11245
6-6-5	Supplying, installtion & marking of Surge arrester/ Surge Protection Device at the sub main distribution board after the incoming breaker of Type 2 conforming to IEC 61643- II tested for Imax 40 kA for single Phase & Neutral as per specification no. CP-SPD	Each	3528	49	3577
6-6-6	Supplying, installtion & marking of Surge arrester/ Surge Protection Device at the sub main distribution board after the incoming breaker of Type 2 conforming to IEC 61643- II tested for Imax 40 kA for Three Phase & Neutral as per specification no. CP-SPD	Each	6806	49	6855
6-6-7 (New)	Supplying, installtion & marking of Surge arrester/ Surge Protection Device at the sub main distribution board after the incoming breaker of Type 2 conforming to IEC 61643- II tested for Imax 15 kA for single Phase & Neutral as per specification no. CP-SPD	Each	5276	49	5325
6-6-8 (New)	Supplying, installtion & marking of Surge arrester/ Surge Protection Device at the sub main distribution board after the incoming breaker of Type 2 conforming to IEC 61643- II tested for Imax 15 kA for Three Phase & Neutral as per specification no. CP-SPD	Each	10376	49	10425
Note:-	The above items shall be used only in installation where delicate/ sensitive instruments are used or for installations that are prone to surges.				
	<u>6.7 Energy Devices (Harmonic Filter, APFC Panel) (ED/APFC)</u>				
6-7-1	Carrying out Power quality analysis of the existing load at per point of supply / or as directed, with use of necessary day equipments and recording Voltage, Current, Frequency, KW, KVA, KVAr, PF, THDv, THDi, Load unbalance and submission of detail analysis report with remedial measures, as per specification no (ESD-ED/PQA)	per day	20613	5090	25703

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
Note:-	<p>1) Above job is to be carried out irrespective of measurements carried out at various electrical panels/load centres.</p> <p>2) For estimating, one day shall be considered of number of hours of one normal working day and it shall be actual time required for taking measurements on site.</p> <p>3)After carrying out detailed Power Quality analysis of existing load and on the basis of analysis Active Harmonic filter is to be provided, in addition to necessary capacitors / APFC with capacitors.</p>				
6-7-2	Supplying, erecting, testing, and commissioning of Digital Active 30 A Harmonic filter cum Power conditioner , with Digital Closed Loop Active filter with Source Current Sensing, 32 bit Digital Signal processing with less than 1 milli second response time, High speed IGBTs in power circuit with necessary CTs to be mounted on existing cable/bus and shunted to supply alongwith Digital display showing Voltage, current, frequency, kW, kVA, kVAR, PF, VTHD, ITHD and waveform with alarm for 3 phase 4 wire system as per specification No. ESD-ED/DAHF	Each	374169	5083	379252
6-7-3	Supplying, erecting, testing, and commissioning of Digital Active 60 A Harmonic filter cum Power conditioner , with Digital Closed Loop Active filter with Source Current Sensing, 32 bit Digital Signal processing with less than 1 milli second response time, High speed IGBTs in power circuit with necessary CTs to be mounted on existing cable/bus and shunted to supply alongwith Digital display showing Voltage, current, frequency, kW, kVA, kVAR, PF, VTHD, ITHD and waveform with alarm for 3 phase 4 wire system as per specification No. ESD-ED/DAHF	Each	440722	5083	445805
6-7-4	Supplying, erecting, testing, and commissioning of Digital Active 100 A Harmonic filter cum Power conditioner , with Digital Closed Loop Active filter with Source Current Sensing, 32 bit Digital Signal processing with less than 1 milli second response time, High speed IGBTs in power circuit with necessary CTs to be mounted on existing cable/bus and shunted to supply alongwith Digital display showing Voltage, current, frequency, kW, kVA, kVAR, PF, VTHD, ITHD and waveform with alarm for 3 phase 4 wire system as per specification No. ESD-ED/DAHF	Each	624660	7718	632378

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-7-5	Supplying, erecting, testing, and commissioning of Digital Active 150 A Harmonic filter cum Power conditioner , with Digital Closed Loop Active filter with Source Current Sensing, 32 bit Digital Signal processing with less than 1 milli second response time, High speed IGBTs in power circuit with necessary CTs to be mounted on existing cable/bus and shunted to supply alongwith Digital display showing Voltage, current, frequency, kW, kVA, kVAR, PF, VTHD, ITHD and waveform with alarm for 3 phase 4 wire system as per specification No. ESD-ED/DAHf	Each	824336	7718	832054
6-7-6	Supplying and erecting 30 kVAR, 440 V Three phase, 50 cycles, THYRISTER SWITCHED MICRO APFC PASSIVE FILTER PANEL , consisting of suitable steps of APP type capacitor units confirming to IS-13585 (Part – I) 1994 with harmonic filter reactors, as per specification no ESD-APFC	Each	138060	7718	145778
6-7-7	Supplying and erecting 40 kVAR, 440 V Three phase, 50 cycles, THYRISTER SWITCHED MICRO APFC PASSIVE FILTER PANEL , consisting of suitable steps of APP type capacitor units confirming to IS-13585 (Part – I) 1994 with harmonic filter reactors, as per specification no ESD-APFC	Each	168073	7718	175791
6-7-8	Supplying and erecting 50 kVAR, 440 V Three phase, 50 cycles, THYRISTER SWITCHED MICRO APFC PASSIVE FILTER PANEL , consisting of suitable steps of APP type capacitor units confirming to IS-13585 (Part – I) 1994 with harmonic filter reactors, as per specification no ESD-APFC	Each	180078	7718	187796
6-7-9 (New)	Supplying and erecting 75 kVAR, 440 V Three phase, 50 cycles, THYRISTER SWITCHED MICRO APFC PASSIVE FILTER PANEL , consisting of suitable steps of APP type capacitor units confirming to IS-13585 (Part – I) 1994 with harmonic filter reactors, as per specification no ESD-APFC	Each	222096	8051	230147
6-7-10	Supplying and erecting 100 kVAR, 440 V Three phase, 50 cycles, THYRISTER SWITCHED MICRO APFC PASSIVE FILTER PANEL , consisting of suitable steps of APP type capacitor units confirming to IS-13585 (Part – I) 1994 with harmonic filter reactors, as per specification no ESD-APFC	Each	279547	8051	287598

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-7-11	Supplying and erecting 125 kVAR, 440 V Three phase, 50 cycles, THYRISTER SWITCHED MICRO APFC PASSIVE FILTER PANEL , consisting of suitable steps of APP type capacitor units confirming to IS-13585 (Part – I) 1994 with harmonic filter reactors, as per specification no ESD-APFC	Each	341182	8051	349233
6-7-12 (New)	Supplying and erecting 150 kVAR, 440 V Three phase, 50 cycles, THYRISTER SWITCHED MICRO APFC PASSIVE FILTER PANEL , consisting of suitable steps of APP type capacitor units confirming to IS- 13585 (Part – I) 1994 with harmonic filter reactors, as per specification no ESD-APFC	Each	396814	8051	404865
6-7-13 (New)	Supplying and erecting 175 kVAR, 440 V Three phase, 50 cycles, THYRISTER SWITCHED MICRO APFC PASSIVE FILTER PANEL , consisting of suitable steps of APP type capacitor units confirming to IS-13585 (Part – I) 1994 with harmonic filter reactors, as per specification no ESD-APFC	Each	461447	8051	469498
6-7-14	Supplying and erecting 200 kVAR, 440 V Three phase, 50 cycles, THYRISTER SWITCHED MICRO APFC PASSIVE FILTER PANEL , consisting of suitable steps of APP type capacitor units confirming to IS-13585 (Part – I) 1994 with harmonic filter reactors, as per specification no ESD-APFC	Each	505725	8051	513776
6-7-15	Supplying and erecting 250 kVAR, 440 V Three phase, 50 cycles, THYRISTER SWITCHED MICRO APFC PASSIVE FILTER PANEL , consisting of suitable steps of APP type capacitor units confirming to IS-13585 (Part – I) 1994 with harmonic filter reactors, as per specification no ESD-APFC	Each	585028	8051	593079
6-7-16 (New)	Supplying and erecting 35 kVAR, Three phase, 50 cycles, Capacitor Duty Contactor with delatching mechanism Micro processor APFC controller with MPP /APP type capacitor with 525 V and having minimum overcurrent capacity of 1.8 In, peak inrush current capacity 300 In and minimum life 150000 hours with , consisting of suitable steps of MPP /APP type capacitor units confirming to Latest IEC with detuned aluminium filter 7% reactors with cicruit breaker as main incomer and MCCB for each branch protection as per specification no ESD-APFC		188885	7718	196603

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-7-17 (New)	Supplying and erecting 50 kVAR, Three phase, 50 cycles, Capacitor Duty Contactor with delatching mechanism Micro processor APFC controller with MPP /APP type capacitor with 525 V and having minimum overcurrent capacity of 1.8 In, peak inrush current capacity 300 In and minimum life 150000 hours with , consisting of suitable steps of MPP /APP type capacitor units confirming to Latest IEC with detuned aluminium filter 7% reactors with cicruit breaker as main incomer and MCCB for each branch protection, as per specification no ESD-APFC		267483	7718	275201
6-7-18 (New)	Supplying and erecting 100 kVAR, Three phase, 50 cycles, Capacitor Duty Contactor with delatching mechanism Micro processor APFC controller with MPP /APP type capacitor with 525 V and having minimum overcurrent capacity of 1.8 In, peak inrush current capacity 300 In and minimum life 150000 hours with , consisting of suitable steps of MPP /APP type capacitor units confirming to Latest IEC with detuned aluminium filter 7% reactors with cicruit breaker as main incomer and MCCB for each branch protection, as per specification no ESD-APFC		380693	8051	388744
6-7-19 (New)	Supplying and erecting 125kVAR, Three phase, 50 cycles, Capacitor Duty Contactor with delatching mechanism Micro processor APFC controller with MPP /APP type capacitor with 525 V and having minimum overcurrent capacity of 1.8 In, peak inrush current capacity 300 In and minimum life 150000 hours with , consisting of suitable steps of MPP /APP type capacitor units confirming to Latest IEC with detuned aluminium filter 7% reactors with cicruit breaker as main incomer and MCCB for each branch protection, as per specification no ESD-APFC		500029	8051	508080
6-7-20 (New)	Supplying and erecting 150kVAR, Three phase, 50 cycles, Capacitor Duty Contactor with delatching mechanism Micro processor APFC controller with MPP /APP type capacitor with 525 V and having minimum overcurrent capacity of 1.8 In, peak inrush current capacity 300 In and minimum life 150000 hours with , consisting of suitable steps of MPP/APP type capacitor units confirming to Latest IEC with detuned aluminium filter 7% reactors with cicruit breaker as main incomer and MCCB for each branch protection, as per specification no ESD-APFC		542029	542029	1084058

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
6-7-21 (New)	Supplying and erecting 200kVAR, Three phase, 50 cycles, Capacitor Duty Contactor with delatching mechanism Micro processor APFC controller with MPP/APP type capacitor with 525 V and having minimum overcurrent capacity of 1.8 In, peak inrush current capacity 300 In and minimum life 150000 hours with , consisting of suitable steps of MPP /APP type capacitor units confirming to Latest IEC with detuned aluminium filter 7% reactors with cicruit breaker as main incomer and MCCB for each branch protection, as per specification no ESD-APFC		607096	8051	615147
6-7-22 (New)	Supplying and erecting 250kVAR, Three phase, 50 cycles, Capacitor Duty Contactor with delatching mechanism Micro processor APFC controller with MPP /APP type capacitor with 525 V and having minimum overcurrent capacity of 1.8 In, peak inrush current capacity 300 In and minimum life 150000 hours with , consisting of suitable steps of MPP/ APP type capacitor units confirming to Latest IEC with detuned aluminium filter 7% reactors with cicruit breaker as main incomer and MCCB for each branch protection, as per specification no ESD-APFC		697605	8051	705656

Note:-

1. After doing quality analysis, if it is observed that filters are required to compensate only reactive power and not harmonics then the above items shall be used with proper designing.
2. After verification of nature of load, depending upon load survey and requirements of reactors and requirements capacitor duty contactor switching panels shall be used.
3. While selectiong the capacitor rated voltage, inrush current capacity, overcurrent capacity and life shall be checked from manufacturer as per specifications mentioned.

Chapter 7

CABLES (CB)

7.1 LT Cables (Aluminum)	(CB-LT/AL)
7.2 LT Cables (Copper)	(CB-LT/CU)
7.3 HT Cables	(CB-HT)
7.4 Cable Joints & End Termination Kits (LT Cables)	(CB-JT/LT)
7.5 Cable Joints & End Termination Kits (HT Cables)	(CB-JT/HT)
7.6 Cable Enclosures	(CB-CE)
7.7 Cable Glands	(CB-GL)
7.8 Street Light Boxes & Cable Indicators	(CB-SB/CB-CIP)
7.9 Cable Lugs (Copper)	(CB-CL/CU)
7.10 Cable Lugs (Aluminium)	(CB-CL/AL)
7.11 Cable Tray	(CB-CT)
7.12 Dismantling	

Chapter : 7 CABLES (CB)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>7.1 LT Cables (Aluminum) (CB-LT/AL)</u>					
7-1-1	Supplying, erecting & terminating PVC armoured cable 2 core 2.5 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	92	20	112
7-1-2	Supplying, erecting & terminating PVC armoured cable 2 core 4 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	97	20	117
7-1-3	Supplying, erecting & terminating PVC armoured cable 2 core 6 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	110	20	130
7-1-4	Supplying, erecting & terminating PVC armoured cable 2 core 10 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	128	20	148
7-1-5	Supplying, erecting & terminating PVC armoured cable 3 core 2.5 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	98	20	118
7-1-6	Supplying, erecting & terminating PVC armoured cable 3 core 4 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	105	20	125
7-1-7	Supplying, erecting & terminating PVC armoured cable 3 core 6 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	119	20	139

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-1-8	Supplying, erecting & terminating PVC armoured cable 3 core 10 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	145	20	165
7-1-9	Supplying, erecting & terminating PVC armoured cable 3 core 16 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	162	26	188
7-1-10	Supplying, erecting & terminating PVC armoured cable 3 core 25 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	189	26	215
7-1-11	Supplying, erecting & terminating PVC armoured cable 3 core 35 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	235	32	267
7-1-12	Supplying, erecting & terminating PVC armoured cable 3 core 50 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	292	32	324
7-1-13	Supplying, erecting & terminating PVC armoured cable 4 core 4 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	118	20	138
7-1-14	Supplying, erecting & terminating PVC armoured cable 4 core 6 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	132	20	152

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-1-15	Supplying, erecting & terminating PVC armoured cable 4 core 10 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	164	20	184
7-1-16	Supplying, erecting & terminating PVC armoured cable 4 core 16 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	181	32	213
7-1-17	Supplying, erecting & terminating PVC armoured cable 3½ core 25 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	211	32	243
7-1-18	Supplying, erecting & terminating PVC armoured cable 3½ core 35 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	262	32	294
7-1-19	Supplying, erecting & terminating PVC armoured cable 3½ core 50 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	360	38	398
7-1-20	Supplying, erecting & terminating PVC armoured cable 3½ core 70 sq mm aluminium conductor with continuous 8.35 sq mm (10 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	479	38	517
7-1-21	Supplying, erecting & terminating PVC armoured cable 3½ core 95 sq mm aluminium conductor with continuous 8.35 sq mm (10 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	584	47	631

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-1-22	Supplying, erecting & terminating PVC armoured cable 4 core 25 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	244	32	276
7-1-23	Supplying, erecting & terminating PVC armoured cable 4 core 35 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	305	32	337
7-1-24	Supplying, erecting & terminating PVC armoured cable 4 core 50 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	391	38	429
7-1-25	Supplying, erecting & terminating PVC armoured cable 4 core 70 sq mm aluminium conductor with continuous 8.35 sq mm (10 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	523	38	561
7-1-26	Supplying, erecting & terminating PVC armoured cable 4 core 95 sq mm aluminium conductor with continuous 8.35 sq mm (10 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	645	47	692
7-1-27	Supplying, erecting & terminating PVC armoured cable 3½ core 120 sq mm aluminium conductor with continuous 12.97 sq mm (8 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	724	56	780
7-1-28	Supplying, erecting & terminating PVC armoured cable 3½ core 150 sq mm aluminium conductor with continuous 12.97 sq mm (8 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	851	80	931

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-1-29	Supplying, erecting & terminating PVC armoured cable 1100 V. 3½ core 185 sq mm aluminium conductor with continuous 12.97 sq mm (8 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	1059	80	1139
7-1-30	Supplying, erecting & terminating PVC armoured cable 3½core 240 sq mm aluminium conductor with continuous 12.97 sq mm (8 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	1333	96	1429
7-1-31	Supplying, erecting & terminating PVC armoured cable 3½ core 300 sq mm aluminium conductor with continuous 12.97 sq mm (8 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	1502	111	1613
7-1-32	Supplying, erecting & terminating PVC armoured cable 3½core 400 sq mm aluminium conductor with continuous 12.97 sq mm (8 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	1903	111	2014
7-1-33	Re-erecting PVC armoured cable 2 to 4 Core up to 50 sq mm on wall with necessary material & G.I. earth wire in an approved manner.	m	28	20	48
7-1-34	Supplying, erecting & terminating PVC armoured cable 1 core 70sq mm aluminium conductor with continuous 12.97 sq mm (8 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	200	38	238
7-1-35	Supplying, erecting & terminating PVC armoured cable 1 core 95sq mm aluminium conductor with continuous 12.97 sq mm (8 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	m	224	38	262
7-1-36	Supplying, erecting & terminating PVC armoured cable 1 core 120sq mm aluminium conductor with continuous 12.97 sq mm (8 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no.	m	239	47	286

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
CB-LT/AL					
7-1-37 (New)	11kv/22kv/33kv Cable Fault Detection for HT power underground cable from 35 sq.mm to 400 sq.mm by acoustic Method by using surge wave tester & surge wave reciver (Duophone) up to 250mtr length cable with recording results & submission of Test reports	Per Job	6772	879	7651
7-1-38 (New)	11kv/22kv/33kv Cable Fault Detection for HT power underground cable from 35 sq.mm to 400 sq.mm by acoustic Method by using surge wave tester & surge wave reciver (Duophone)251mtr to 500 mtr length cable with recording results & submission of Test reports	Per Job	6456	879	7335
7-1-39 (New)	Cable Fault Detection for all types of LT underground cable from 16sq.mm. to 400 sq. mm by acoustic Method by using surge wave tester & surge wave reciver (Duophone) up to 250mtr length cable with recording results & submission of Test reports	Per Job	6772	540	7312
7-1-40 (New)	Cable Fault Detection for all types of LT underground cable from 16 sq.mm to 400 sq.mm by acoustic Method by using surge wave tester & surge wave reciver (Duophone) 251mtr to 500mtr length cable with recording results & submission of Test reports	Per Job	6456	540	6996
Note:-	1) Add Rs. 5/- per meter for erection of cables on stone wall. 2) Rate of all cables includes cost of lugs, glands, etc. required for erection and connection of cable. 3) In case of next fault for same cable add Rs 4000 per fault for fault detection. 4)Add Rs 5000/- for high pressure testing charges of H.T. cable 5)Transportation charges of fault finding Machine above 20 km Rs 12/- per km				
<u>7.2 LT Cables (Copper) (CB-LT/CU)</u>					
7-2-1	Supplying, erecting & terminating PVC armoured cable 2 core 2.5 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	143	20	163

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-2-2	Supplying, erecting & terminating PVC armoured cable 2 core 4 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	182	20	202
7-2-3	Supplying, erecting & terminating PVC armoured cable 2 core 6 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	239	20	259
7-2-4	Supplying, erecting & terminating PVC armoured cable 2 core 10 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	351	20	371
7-2-5	Supplying, erecting & terminating PVC armoured cable 3 core 2.5 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	176	20	196
7-2-6	Supplying, erecting & terminating PVC armoured cable 3 core 4 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	231	20	251
7-2-7	Supplying, erecting & terminating PVC armoured cable 3 core 6 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	312	20	332
7-2-8	Supplying, erecting & terminating PVC armoured cable 3 core 10 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	468	20	488
7-2-9	Supplying, erecting & terminating PVC armoured cable 4 core 4 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	289	20	309

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-2-10	Supplying, erecting & terminating PVC armoured cable 4 core 6 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	396	20	416
7-2-11	Supplying, erecting & terminating PVC armoured cable 4 core 10 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	599	20	619
7-2-12	Supplying, erecting & terminating PVC armoured cable 4 core 16 sq mm copper conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	857	26	883
7-2-13	Supplying, erecting & terminating PVC armoured cable 4 core 25 sq mm copper conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	1402	26	1428
7-2-14	Supplying, erecting & terminating PVC armoured cable 4 core 35 sq mm copper conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	1920	32	1952
7-2-15	Supplying, erecting & terminating PVC armoured cable 4 core 50 sq mm copper conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	m	2621	38	2659
7-2-16 (New)	Supplying, erecting & terminating PVC Unarmoured cable 1 core 25 sq. mm copper conductor complete erected with provided lugs, laid in provided control panel /distribution boards / pipe as per specification no. CB-LT/CU	m	384	26	410
7-2-17 (New)	Supplying, erecting & terminating PVC Unarmoured cable 1 core 35 sq. mm copper conductor complete erected with provided lugs, laid in provided control panel /distribution boards / pipe as per specification no. CB-LT/CU	m	520	32	552

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-2-18 (New)	Supplying, erecting & terminating PVC Unarmoured cable 1 core 50 sq. mm copper conductor complete erected with provided lugs, laid in provided control panel /distribution boards / pipe as per specification no. CB-LT/CU	m	703	32	735
7-2-19 (New)	Supplying, erecting & terminating PVC Unarmoured cable 1 core 70 sq. mm copper conductor complete erected with provided lugs, laid in provided control pane l/distribution boards / pipe as per specification no. CB-LT/CU	m	989	32	1021
7-2-20 (New)	Supplying, erecting & terminating PVC Unarmoured cable 1 core 95 sq. mm copper conductor complete erected with provided lugs, laid in provided control panel /distribution boards / pipe as per specification no. CB-LT/CU	m	1390	32	1422
Note:-	1) Add Rs. 5/- per meter for erection of cables on stone wall. 2) Rate of all cables includes cost of lugs, glands, etc. required for erection and connection of cable. 3) For cable fault detection rates refer sub chapter 7.1 and notes below.				
<u>7.3 HT Cables (CB-HT)</u>					
7-3-1	Supplying , erecting & terminating 3 x 70 sq mm 11 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No. CB-HT	m	937	66	1003
7-3-2	Supplying , erecting & terminating 3 x 95 sq mm 11 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No. CB-HT	m	1043	66	1109
7-3-3	Supplying , erecting & terminating 3 x 120 sq mm 11 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification no. CB-HT	m	1227	66	1293
7-3-4	Supplying , erecting & terminating 3 x 70 sq mm 22 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification no. CB-HT	m	1227	66	1293
7-3-5	Supplying , erecting & terminating 3 x 95 sq mm 22 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No.	m	1451	66	1517

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-3-6	CB-HT Supplying , erecting & terminating 3 x 120 sq mm 22 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No.	m	1599	66	1665
7-3-7	CB-HT Supplying , erecting & terminating 3 x 70 sq mm 33 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No.	m	1454	66	1520
7-3-8	CB-HT Supplying , erecting & terminating 3 x 95 sq mm 33 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No.	m	2009	66	2075
7-3-9	CB-HT Supplying , erecting & terminating 3 x 120 sq mm 33 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No.	m	2221	66	2287
7-3-10	CB-HT Supplying , erecting & terminating 3 x 150 sq mm 11 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No.	m	1374	81	1455
7-3-11	CB-HT Supplying , erecting & terminating 3 x 185 sq.mm 11 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No.	m	1614	81	1695
7-3-12	CB-HT Supplying , erecting & terminating 3 x 240 sq mm 11 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No.	m	1931	96	2027
7-3-13	CB-HT Supplying , erecting & terminating 3 x 300 sq mm 11 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No.	m	2255	96	2351
7-3-14	CB-HT Supplying , erecting & terminating 3 x 400 sq mm 11 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No.	m	2741	96	2837
7-3-15 (New)	CB-HT Supplying , erecting & terminating 3 x 150 sq mm 22 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No.	m	1896	66	1962

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-3-16 (New)	Supplying , erecting & terminating 3 x 185 sq mm 22 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No. CB-HT	m	2127	66	2193
7-3-17 (New)	Supplying , erecting & terminating 3 x 240 sq mm 22 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No. CB-HT	m	2492	66	2558
7-3-18 (New)	Supplying , erecting & terminating 3 x 300 sq mm 22 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No. CB-HT	m	2859	66	2925
7-3-19 (New)	Supplying , erecting & terminating 3 x 150 sq mm 33 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No. CB-HT	m	2427	66	2493
7-3-20 (New)	Supplying , erecting & terminating 3 x 185 sq mm 33 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No. CB-HT	m	2680	66	2746
7-3-21 (New)	Supplying , erecting & terminating 3 x 240 sq mm 33 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No. CB-HT	m	3065	66	3131
7-3-22 (New)	Supplying , erecting & terminating 3 x 300 sq mm 33 kV, XLPE(E) armoured cable on wall/ceiling or laid in provided trench / pipe in an approved manner as per specification No. CB-HT	m	3444	66	3510
Note:-	1) For cable fault detection rates refer sub chapter 7.1 and notes below. 2) For round wire armouring increase material rates by 25%.				
<u>7.4 Cable Joints & End Termination Kits (LT Cables) (CB-JT/LT)</u>					
7-4-1	Providing & erecting epoxy straight through joint outdoor/indoor for LT PVC armoured cable 2.5 to 16 sq mm. cable, with necessary material as per specification No. CB-JT/LT	Each	1143	262	1405
7-4-2	Providing & erecting epoxy straight through joint outdoor/indoor for LT PVC armoured cable 25 to 50 sq mm. cable, with necessary material as per specification No. CB-JT/LT	Each	1350	262	1612

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-4-3	Providing & erecting epoxy straight through joint outdoor/indoor for LT PVC armoured cable 70 to 95 sq mm cable, with necessary material as per specification No. CB-JT/LT	Each	1943	388	2331
7-4-4	Providing & erecting epoxy straight through joint outdoor/indoor for LT PVC armoured cable 120 to 185 sq mm cable, with necessary material as per specification No. CB-JT/LT	Each	2626	540	3166
7-4-5	Providing & erecting epoxy straight through joint outdoor/indoor for LT PVC armoured cable 240 sq.mm. cable, with necessary material as per specification No. CB-JT/LT	Each	2881	540	3421
7-4-6	Providing & erecting epoxy straight through joint outdoor/indoor for LT PVC armoured cable 300 sq mm. cable, with necessary material as per specification No. CB-JT/LT	Each	3456	666	4122
7-4-7	Providing & erecting epoxy straight through joint outdoor/indoor for LT PVC armoured cable 400 sq mm. cable, with necessary material as per specification No. CB-JT/LT	Each	4700	745	5445
7-4-8	Providing & erecting epoxy outdoor / indoor end termination kit for LT PVC armoured cable 2.5 to 16 sq mm. cable, with necessary material as per specification No. CB-JT/LT	Each	1038	262	1300
7-4-9	Providing & erecting epoxy outdoor / indoor end termination kit for LT PVC armoured cable 25 to 50 sq mm. cable, with necessary material as per specification No. CB-JT/LT	Each	1312	262	1574
7-4-10	Providing & erecting epoxy outdoor / indoor end termination kit for LT PVC armoured cable 70 to 150 sq mm. cable, with necessary material as per specification No. CB-JT/LT	Each	1448	388	1836
7-4-11	Providing & erecting epoxy outdoor / indoor end termination kit for LT PVC armoured cable 185 to 300 sq mm. cable, with necessary material as per specification No. CB-JT/LT	Each	1812	540	2352
7-4-12	Providing & erecting epoxy outdoor / indoor end termination kit for LT PVC armoured cable 225 to 300 sq mm. cable, with necessary material as per specification no. CB-JT/LT	Each	1828	540	2368
7-4-13	Providing & erecting epoxy outdoor / indoor end termination kit for LT PVC armoured cable 400 sq mm. cable, with necessary material as per specification No. CB-JT/LT	Each	2175	745	2920

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7.5 Cable Joints & End Termination Kits (HT Cables) (CB-JT/HT)					
7-5-1	Deleted				
7-5-2	Deleted				
7-5-3	Providing and erecting Heat shrinkable indoor termination kit for 33 kV (E) XLPE HT cable 3x70 to 95 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	15579	1352	16931
7-5-4	Providing and erecting Heat shrinkable indoor termination kit for 11 kV (E) XLPE HT cable 3x150 to 185 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	10821	1352	12173
7-5-5	Providing and erecting Heat shrinkable indoor termination kit for 22 kV (E) XLPE HT cable 3x150 to 185 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	14491	1287	15778
7-5-6	Providing and erecting Heat shrinkable indoor termination kit for 33 kV (E) XLPE HT cable 3x120 to 185 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	23455	1352	24807
7-5-7	Deleted		0	0	0
7-5-8	Providing and erecting Heat shrinkable indoor termination kit for 22 kV (E) XLPE HT cable 3x240 to 400 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	16272	1352	17624
7-5-9	Providing and erecting Heat shrinkable indoor termination kit for 33 kV (E) XLPE HT cable 3x240 to 400 sq mm. with necessary material as per specification No. CB-JT/HT	Each	26453	1352	27805
7-5-10	Deleted		0	0	0
7-5-11	Providing and erecting Heat shrinkable outdoor termination kit for 22 kV (E) XLPE HT cable 3x70 to 120 sq mm cable with necessary material as per specification No. CB-JT/HT	Each	18608	1474	20082
7-5-12	Providing and erecting Heat shrinkable outdoor termination kit for 33 kV (E) XLPE HT cable 3x70 to 95 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	24662	1474	26136
7-5-13	Providing and erecting Heat shrinkable outdoor termination kit for 11 kV (E) XLPE HT cable 3x150 to 185 sq. mm. with necessary material as per specification no. CB-JT/HT	Each	13967	1474	15441
7-5-14	Providing and erecting Heat shrinkable outdoor termination kit for 22 kV (E) XLPE HT cable 3x150 to 185 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	21308	1474	22782

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-5-15	Providing and erecting Heat shrinkable outdoor termination kit for 33 kV (E) XLPE HT cable 3x120 to 185 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	31885	1474	33359
7-5-16	Deleted				
7-5-17	Providing and erecting Heat shrinkable outdoor termination kit for 22 kV (E) XLPE HT cable 3x240 to 400 sq mm. with necessary material as per specification No. CB-JT/HT	Each	28309	1474	29783
7-5-18	Providing and erecting Heat shrinkable outdoor termination kit for 33 kV (E) XLPE HT cable 3x240 to 400 sq mm. with necessary material as per specification No. CB-JT/HT	Each	41576	1474	43050
7-5-19	Deleted				
7-5-20	Deleted				
7-5-21	Deleted				
7-5-22	Deleted				
7-5-23	Deleted				
7-5-24	Deleted				
7-5-25	Providing and erecting Heat shrinkable Straight through joint kit for 11 kV (E) XLPE HT cable 3x300 to 400 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	30003	1690	31693
7-5-26	Providing and erecting Heat shrinkable Straight through joint kit for 22 kV (E) XLPE HT cable 3x300 to 400 sq. mm with necessary material as per specification No. CB-JT/HT	Each	57015	1690	58705
7-5-27	Providing and erecting Heat shrinkable Straight through joint kit for 33 kV (E) XLPE HT cable 3x300 to 400 sq mm with necessary material as per specification No. CB-JT/HT	Each	96110	1690	97800
7-5-28 (New)	Providing and erecting Heat shrinkable indoor termination kit for 11 kV (E) XLPE HT cable 3x50 to 95 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	10331	1352	11683
7-5-29 (New)	Providing and erecting Heat shrinkable indoor termination kit for 11 kV (E) XLPE HT cable 3x120 to 185 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	12239	1010	13249
7-5-30 (New)	Providing and erecting Heat shrinkable indoor termination kit for 22 kV (E) XLPE HT cable 3x70 to 95 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	12967	1010	13977

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-5-31 (New)	Providing and erecting Heat shrinkable indoor termination kit for 22 kV (E) XLPE HT cable 3x120 to 185 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	15437	1010	16447
7-5-32 (New)	Providing and erecting Heat shrinkable indoor termination kit for 11 kV (E) XLPE HT cable 3x240 to 300 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	12959	1352	14311
7-5-33 (New)	Providing and erecting Heat shrinkable indoor termination kit for 11 kV (E) XLPE HT cable 400 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	13762	1352	15114
7-5-34 (New)	Providing and erecting Heat shrinkable outdoor termination kit for 11 kV (E) XLPE HT cable 3x50 to 95 sq mm with necessary material as per specification No. CB-JT/HT	Each	15273	1474	16747
7-5-35 (New)	Providing and erecting Heat shrinkable outdoor termination kit for 11 kV (E) XLPE HT cable 3x120 to 185 sq mm with necessary material as per specification No. CB-JT/HT	Each	16394	1474	17868
7-5-36 (New)	Providing and erecting Heat shrinkable outdoor termination kit for 11 kV (E) XLPE HT cable 3x240 to 300 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	18424	1474	19898
7-5-37 (New)	Providing and erecting Heat shrinkable outdoor termination kit for 11 kV (E) XLPE HT cable 3x400 sq. mm. with necessary material as per specification No. CB-JT/HT	Each	19379	1474	20853
7-5-38 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 11 kV (E) XLPE HT cable 3x50 to 95 sq.mm. with necessary material as per specification No. CBJT/HT	Each	24837	1690	26527
7-5-39 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 11 kV (E) XLPE HT cable 3x120 to 185 sq.mm. with necessary material as per specification No. CBJT/HT	Each	32299	1690	33989
7-5-40 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 22 kV (E) XLPE HT cable 3x70 to 95 sq.mm with necessary material as per specification No. CBJT/HT	Each	48065	1690	49755
7-5-41 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 22 kV (E) XLPE HT cable 3x120 to 150 sq.mm with necessary material as per specification No. CBJT/HT	Each	50753	1690	52443
7-5-42 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 33 kV (E) XLPE HT cable 3x35 to 70 sq mm with	Each	54351	1690	56041

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	necessary material as per specification No. CBJT/HT				
7-5-43 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 33 kV (E) XLPE HT cable 3x95 to 150 sq mm with necessary material as per specification No. CBJT/HT	Each	68686	1690	70376
7-5-44 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 11 kV (E) XLPE HT cable 3x120 to 185 sq.mm. with necessary material as per specification No. CBJT/HT	Each	32299	1690	33989
7-5-45 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 11 kV (E) XLPE HT cable 3x240 to 400 sq.mm. with necessary material as per specification No. CBJT/HT	Each	36196	1690	37886
7-5-46 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 22 kV (E) XLPE HT cable 3x120 to 150 sq.mm. with necessary material as per specification No. CBJT/HT	Each	50753	1690	52443
7-5-47 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 22 kV (E) XLPE HT cable 3x185 to 240 sq.mm. with necessary material as per specification No. CBJT/HT	Each	60968	1690	62658
7-5-48 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 33 kV (E) XLPE HT cable 3x120 to 150 s mm. with necessary material as per specification No. CBJT/HT	Each	68686	1690	70376
7-5-49 (New)	Providing and erecting Heat shrinkable Straight through joint kit for 33 kV (E) XLPE HT cable 3x185 to 240 sq.mm. with necessary material as per specification No. CBJT/HT	Each	96429	1690	98119
	<u>7.6 Cable Enclosures (CB-CE)</u>				
7-6-1	Supplying & erecting G.I. pipe 'A' class 25 mm dia. erected for enclosing PVC armoured cable on wall/pole as per specification No. CB-CE	m	158	30	188
7-6-2	Supplying & erecting G.I. pipe 'A' class 40 mm dia. erected for enclosing PVC armoured cable on wall/pole as per specification No. CB-CE	m	257	45	302
7-6-3	Supplying & erecting G.I. pipe 'A' class 50 mm dia. erected for enclosing PVC armoured cable on wall/pole as per specification No. CB-CE	m	308	60	368

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-6-4	Supplying & erecting G.I. pipe 'A' class 75 mm dia. erected for enclosing PVC armoured cable on wall/pole as per specification No. CB-CE	m	510	75	585
7-6-5	Supplying & laying (including excavation) 15 cm dia RCC Hume pipe with coupling collar of standard thickness at required depth up to 90 cm below road / ground surface, for enclosing provided cable & necessary back filling with light ramming to make the road/ground surface as it was (Except bitumen carpet).	m	372	322	694
7-6-6	Supplying & laying (including excavation) 15 cm dia half round RCC Hume pipe of standard thickness at required depth up to 90 cms. below road / ground surface, for enclosing provided cable & necessary back filling with light ramming to make the road/ground surface as it was (Except bitumen carpet).	m	204	322	526
7-6-7	Supplying & laying (including excavation) 25 cm dia RCC Hume pipe of standard thickness at required depth up to 90 cms. below road / ground surface, for covering provided cable & necessary back filling with light ramming to make the road/ground surface as it was (Except bitumen carpet).	m	420	322	742
7-6-8	Supplying & laying (including excavation) 25 cm Dia half round RCC Hume pipe of standard thickness at required depth up to 90 cms. below road / ground surface, for enclosing provided cable & necessary back filling with light ramming to make the road/ground surface as it was (Except bitumen carpet).	m	252	322	574
7-6-9	Deleted				
7-6-10	Deleted				
7-6-11	Supplying and laying (including excavation) 50 mm outside dia. double wall corrugated pipes (DWC) of HDPE for enclosing cable below ground/road surface, to required depth complete.	m	102	124	226
7-6-12	Supplying and laying (including excavation) 77 mm outside dia. double wall corrugated pipes (DWC) of HDPE for enclosing cable below ground/road surface, to required depth complete.	m	130	124	254
7-6-13	Supplying and laying (including excavation) 90 mm outside dia. double wall corrugated pipes (DWC) of HDPE for enclosing cable below ground/road surface, to required depth complete.	m	176	165	341

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-6-14	Supplying and laying (including excavation) 120 mm outside dia. double wall corrugated pipes (DWC) of HDPE for enclosing cable below ground/road surface, to required depth complete.	m	222	165	387
7-6-15	Supplying and laying (including excavation) 146 mm outside dia. double wall corrugated pipes (DWC) of HDPE for enclosing cable below ground/road surface, to required depth complete.	m	293	165	458
7-6-16	Supplying and laying (including excavation) 160 mm outside dia, double wall corrugated pipes (DWC) of HDPE for enclosing cable below ground/road surface, to required depth complete.	m	321	165	486
7-6-17	Supplying and laying (including excavation) 175 mm outside dia, double wall corrugated pipes (DWC) of HDPE for enclosing cable below ground/road surface, to required depth complete.	m	369	242	611
7-6-18	Supplying and laying (including excavation) 200 mm outside dia, double wall corrugated pipes (DWC) of HDPE for enclosing cable below ground/road surface, to required depth complete.	m	454	242	696
Note:-	<p>1)For erection of G I pipe on stone wall add Rs.5/- per meter to the overall rate.</p> <p>2)All the GI pipes and DWC pipes shall be ISI marked.</p> <p>3) For running the cable across the field / along the road , it should be covered by half round Hume Pipe only.</p>				
<u>7.7 Cable Glands(CB-GL)</u>					
7-7-1	Supplying & erecting Siemens type brass cable glands for 2 to 4 core 2.5 sq mm /2 to 4 core 4 sq mm /2 core 6 sq mm for PVC armoured cable as per specification No. CB-GL	Each	20	23	43
7-7-2	Supplying & erecting Siemens type brass cable glands for 3 to 4 core 6 sq mm /2 to 4 core 10 sq mm for PVC armoured cable as per specification No. CB-GL	Each	25	24	49
7-7-3	Supplying & erecting Siemens type brass cable glands for 3 to 4 core 16 sq mm /3 to 4 core 25 sq mm /3 core 35 sq mm for PVC armoured cable as per specification No. CB-GL	Each	30	32	62
7-7-4	Supplying & erecting Siemens type brass cable glands for 4 core 35 Sq.mm./3 core 50 Sq.mm. for PVC armoured cable as per specification no. CB-GL	Each	45	32	77

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-7-5	Supplying & erecting Siemens type brass cable glands for 4 core 50 sq mm for PVC armoured cable as per specification No. CB-GL	Each	53	45	98
7-7-6	Supplying & erecting Siemens type brass cable glands for 3½ core 70 sq mm for PVC armoured cable as per specification No. CB-GL	Each	66	45	111
7-7-7	Supplying & erecting Siemens type brass cable glands for 3½ core 95 sq mm for PVC armoured cable as per specification No. CB-GL	Each	83	45	128
7-7-8	Supplying & erecting Siemens type brass cable glands for 3½ core 120 sq mm for PVC armoured cable as per specification No. CB-GL	Each	102	45	147
7-7-9	Supplying & erecting Siemens type brass cable glands for 3½ core 150 sq mm for PVC armoured cable as per specification No. CB-GL	Each	130	45	175
7-7-10	Supplying & erecting Siemens type brass cable glands for 3½ core 185 sq mm for PVC armoured cable as per specification No. CB-GL	Each	171	52	223
7-7-11	Supplying & erecting Siemens type brass cable glands for 3½ core 240 sq mm for PVC armoured cable as per specification No. CB-GL	Each	203	52	255
7-7-12	Supplying & erecting Siemens type brass cable glands for 3½ core 300 sq mm for PVC armoured cable as per specification No. CB-GL	Each	243	58	301
7-7-13	Supplying & erecting Siemens type brass cable glands for 3½ core 400 sq mm for PVC armoured cable as per specification No. CB-GL	Each	274	72	346

Note:- 1) For use of Flange type glands increase overall rate by 50%.
2) Glands are to be provided at time of joints/repairs.

7.8 Street Light Boxes & Cable Indicators **(CB-SB/CB-CIP)**

7-8-1	Supplying & erecting cast iron terminal box plate buried along with route of cable for PVC / XLPE armoured cable as per specification No. CB-CIP	Each	190	19	209
7-8-2	Supplying & erecting water tight terminal box of 1.6 mm (16 gauge) CRCA sheet of size 200 x 150 x 150 mm , complete on pole as per specification No. CB-SB	Each	516	37	553
7-8-3	Supplying & erecting water tight terminal box of 1.6 mm (16 gauge) CRCA sheet of size 300 x 200 x 150 mm , complete on pole as per specification No. CB-SB	Each	748	37	785

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-8-4	Supplying & erecting water tight terminal box of 1.6 mm (16 gauge) CRCA sheet of size 150 x 100 x 100 mm complete on pole as per specification No. CB-SB	Each	327	37	364
7-8-5	Supplying & erecting water tight terminal box of cast iron of size 200 x 150 x 150 mm complete on pole as per specification No. CB-SB	Each	644	37	681
7-8-6	Supplying & erecting water tight terminal box of cast iron of size 300 x 200 x 150 mm complete on pole as per specification No. CB-SB	Each	770	37	807
7-8-7	Supplying & erecting water tight terminal box of cast iron of size 150 x 100 x 100 mm complete on pole as per specification No. CB-SB	Each	552	37	589
7-8-8	Supplying & erecting FRP box of size 300mm x 200mm x 125 mm, 2.7 mm thick complete on pole/wall as per specification No. CB-SB	Each	652	37	689
7-8-9	Supplying & erecting FRP box of size 250mm x 200mm x 100 mm, 2.7 mm thick complete on pole/wall as per specification No. CB-SB	Each	595	37	632
7-8-10	Supplying & erecting FRP box of size 150mm x 125mm x 100 mm, 2.7 mm thick complete on pole/wall as per specification No. CB-SB	Each	490	37	527
<u>7.9 Cable Lugs (Copper) (CB-CL/CU)</u>					
7-9-1	Supplying & erecting crimping type copper lugs for cable upto 16 sq mm complete as per specification No. CB-CL/CU	Each	10	8	18
7-9-2	Supplying & erecting crimping type copper lugs for cable 25 sq mm complete as per specification No. CB-CL/CU	Each	17	8	25
7-9-3	Supplying & erecting crimping type copper lugs for cable 35 sq mm complete as per specification No. CB-CL/CU	Each	20	9	29
7-9-4	Supplying & erecting crimping type copper lugs for cable 50 sq mm complete as per specification No. CB-CL/CU	Each	26	9	35
7-9-5	Supplying & erecting crimping type copper lugs for cable 70 sq mm complete as per specification No. CB-CL/CU	Each	40	9	49
7-9-6	Supplying & erecting crimping type copper lugs for cable 95 sq mm complete as per specification No. CB-CL/CU	Each	54	11	65
7-9-7	Supplying & erecting crimping type copper lugs for cable 120 sq mm complete as per specification No. CB-CL/CU	Each	73	15	88
7-9-8	Supplying & erecting crimping type copper lugs for cable 150 sq mm complete as per	Each	89	24	113

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-9-9	specification No. CB-CL/CU Supplying & erecting crimping type copper lugs for cable 185 sq mm complete as per specification No. CB-CL/CU	Each	134	24	158
7-9-10	Supplying & erecting crimping type copper lugs for cable 240 sq mm complete as per specification No. CB-CL/CU	Each	200	24	224
7-9-11	Supplying & erecting crimping type copper lugs for cable 300 sq mm complete as per specification No. CB-CL/CU	Each	267	34	301
7-9-12	Supplying & erecting crimping type copper lugs for cable 400 sq mm complete as per specification No. CB-CL/CU	Each	411	35	446
<u>7.10 Cable Lugs (Aluminium) (CB-CL/AL)</u>					
7-10-1	Supplying & erecting crimping type aluminium lugs for cable upto 16 sq mm complete as per specification No. CB-CL/AL	Each	3	5	8
7-10-2	Supplying & erecting crimping type aluminium lugs for cable 25 sq mm complete as per specification No. CB-CL/AL	Each	3	5	8
7-10-3	Supplying & erecting crimping type aluminium lugs for cable 35 sq mm complete as per specification No. CB-CL/AL	Each	5	9	14
7-10-4	Supplying & erecting crimping type aluminium lugs for cable 50 sq mm complete as per specification No. CB-CL/AL	Each	7	9	16
7-10-5	Supplying & erecting crimping type aluminium lugs for cable 70 sq mm complete as per specification No. CB-CL/AL	Each	11	9	20
7-10-6	Supplying & erecting crimping type aluminium lugs for cable 95 sq mm complete as per specification No. CB-CL/AL	Each	12	9	21
7-10-7	Supplying & erecting crimping type aluminium lugs for cable 120 sq mm complete as per specification No. CB-CL/AL	Each	17	14	31
7-10-8	Supplying & erecting crimping type aluminium lugs for cable 150 sq mm complete as per specification No. CB-CL/AL	Each	22	16	38
7-10-9	Supplying & erecting crimping type aluminium lugs for cable 185 sq mm complete as per specification No. CB-CL/AL	Each	28	22	50
7-10-10	Supplying & erecting crimping type aluminium lugs for cable 240 sq mm complete as per specification No. CB-CL/AL	Each	47	22	69
7-10-11	Supplying & erecting crimping type aluminium lugs for cable 300 sq mm complete as per specification No. CB-CL/AL	Each	66	38	104
7-10-12	Supplying & erecting crimping type aluminium lugs for cable 400 sq mm complete as per specification No. CB-CL/AL	Each	96	38	134

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7.11 Cable Tray (CB-CT)					
7-11-1	Providing & erecting Hot dipped Galvanised Ladder type Cable tray manufactured from 16 swg (1.6 mm thick) GI sheet of 150 mm width & 100 mm height comprising all required standard accessories.	m	613	190	803
7-11-2	Providing & erecting Hot dipped Galvanised Ladder type Cable tray manufactured from 16 swg (1.6 mm thick) GI sheet of 200 mm width & 100 mm height comprising all required standard accessories.	m	630	199	829
7-11-3	Providing & erecting Hot dipped Galvanised Ladder type Cable tray manufactured from 16 swg (1.6 mm thick) GI sheet of 300 mm width & 100 mm height comprising all required standard accessories.	m	662	208	870
7-11-4	Providing & erecting Hot dipped Galvanised Ladder type Cable tray manufactured from 16 swg (1.6 mm thick) GI sheet of 400 mm width & 100 mm height comprising all required standard accessories.	m	695	216	911
7-11-5	Providing & erecting Hot dipped Galvanised Ladder type Cable tray manufactured from 16 swg (1.6 mm thick) GI sheet of 500 mm width & 100 mm height comprising all required standard accessories.	m	727	225	952
7-11-6	Providing & erecting Hot dipped Galvanised Perforated type Cable tray manufactured from 16 swg (1.6 mm thick) GI sheet of 150 mm width & 75 mm height complete with necessary coupler plates & hardware in approved manner.	m	447	96	543
7-11-7	Providing & erecting Hot dipped Galvanised Perforated type Cable tray manufactured from 16 swg (1.6 mm thick) GI sheet of 200 mm width & 75 mm height complete with necessary coupler plates & hardware in approved manner.	m	521	96	617
7-11-8	Providing & erecting Hot dipped Galvanised Perforated type Cable tray manufactured from 16 swg (1.6 mm thick) GI sheet of 300 mm width & 75 mm height complete with necessary coupler plates & hardware in approved manner.	m	670	96	766
7-11-9	Providing & erecting Hot dipped Galvanised Perforated type Cable tray manufactured from 16 swg (1.6 mm thick) GI sheet of 400 mm width & 75 mm height complete with necessary coupler plates & hardware in approved manner.	m	819	96	915

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
7-11-10	Providing & erecting Hot dipped Galvanised Perforated type Cable tray manufactured from 16 swg (1.6 mm thick) GI sheet of 500 mm width & 75 mm height complete with necessary coupler plates & hardware in approved manner.	m	968	96	1064
7-11-11	Providing & erecting Hot dipped Galvanised cover suitable for perforated type Cable tray manufactured from 18 swg (1.2 mm thick) GI sheet of 150 mm width & 20 mm height complete with necessary hardware in approved manner.	m	209	42	251
7-11-12	Providing & erecting Hot dipped Galvanised cover suitable for perforated type Cable tray manufactured from 18 swg (1.2 mm thick) GI sheet of 200 mm width & 20 mm height complete with necessary hardware in approved manner.	m	265	42	307
7-11-13	Providing & erecting Hot dipped Galvanised cover suitable for perforated type Cable tray manufactured from 18 swg (1.2 mm thick) GI sheet of 300 mm width & 20 mm height complete with necessary hardware in approved manner.	m	378	42	420
7-11-14	Providing & erecting Hot dipped Galvanised cover suitable for perforated type Cable tray manufactured from 18 swg (1.2 mm thick) GI sheet of 400 mm width & 20 mm height complete with necessary hardware in approved manner.	m	491	42	533
7-11-15 (New)	Providing & erecting Hot dipped Galvanised cover suitable for perforated type Cable tray manufactured from 18 swg (1.2 mm thick) GI sheet of 500 mm width & 20 mm height complete with necessary hardware in approved manner.	m	603	42	645

Note:- 1) **Standard accessories shall typically include :**
a) **'Z' section support -30 x 35 mm in size - 312 mm in length - 6 nos. support for one piece ladder of 2.5 m in length each.**
b) **Anchor fastner & nut bolts of adequate size - 16 nos.(2 nos. per support)**
c) **Coupler plates with hardware - 70 x 200 x 3 mm thick - 2 nos. for each piece of 2.5 m Ladder complete with necessary accessories such as Reducer, Horizontal Elbow & Tee, Up & Down Vertical Elbow & bend, Cross Piece complete erected in approved manner.**
2) **Provision for resting arrangement or support for perforated type Cable tray shall be made separately as per iron work Item**

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	<p>3) Provision of cover for perforated type Cable tray shall be made only where it is absolutely necessary and make sure for locking arrangement.</p> <p>4) Both type of cable tray shall be earthed properly.</p>				
	<u>7.12 Dismantling</u>				
7-12-1	Dismantling the existing cables of all types & size upto 10 sq mm.	m	0	14	14
7-12-2	Dismantling the existing cables of all types & size above 10 sq mm upto 50 sq.mm.	m	0	21	21
7-12-3	Dismantling the existing cables of all types & size above 50 sq mm.	m	0	28	28
7-12-4	Refilling the holes for dismantled cables with cement mortar & finishing in an aproved manner etc. complete	m	15	39	54
7-12-5	Dismantling the existing underground cable without damaging it with glands, cable end box including refilling the trench up to ground level and making coils complete.	m	0	88	88
Note:-	<p>1)The rates for item no 7.12.1 to 7.12.5 are for dismantling and handing over to section office inclusive of transportation upto 25 km, between site and section office.</p> <p>2)Item No 7.12.5 shall be used only when the cost of dismantled cable is more than the cost of excavation.</p>				

Chapter 8

OVER HEAD SYSTEMS (OH)

8.1 Steel Poles	(OH-PL)
8.2 PSC Poles	(OH-PSC)
8.3 Hot Dipped Galvanized Poles & High Mast	(OH-HM)
8.4 Brackets	(OH-BKT)
8.5 Conductors	(OH-CON)
8.6 Insulators	(OH-INS)
8.7 Accessories	
8.8 Dismantling	

Chapter : 8 OVER HEAD SYSTEMS (OH)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>8.1 Steel Poles (OH-PL)</u>					
8-1-1	Supplying and erecting steel tubular swaged pole 139.7 x 114.3 x 88.9 mm. dia with 4.5x3.65x3.25 mm thickness (4.5 + 1.75 + 1.75 m) length respectively and total 8 m long with pole cap, base plate in provided foundation.(weight 101 kg.) as per specification No. OH-PL/STP	Each	8671	612	9283
8-1-2	Supplying and erecting steel tubular swaged pole 139.7 x 114.3 x 88.9 mm. dia with 4.5x3.65x3.25 mm thickness (5 + 1.75 + 1.75 m) length respectively and total 8.5 m long with pole cap, base plate in provided foundation.(weight 109 kg.) as per specification No. OH-PL/STP	Each	9667	612	10279
8-1-3	Supplying and erecting steel tubular swaged pole 165.1 x 139.7 x 114.3 mm. dia with 4.5 x 4.5 x 3.65 mm thickness (5 + 2 + 2 m) length respectively and total 9 m long with pole cap, base plate in provided foundation (weight 147 kg) as per specification No. OH-PL/STP	Each	12489	817	13306
8-1-4	Supplying and erecting steel tubular swaged pole 165.1 x 139.7 x 114.3 mm dia with 4.5 x 4.5 x 3.65 mm. thickness (5 + 2.5 + 2.5 m) length respectively and total 10 m long with pole cap, base plate in provided foundation (weight 160 kg) as per specification No. OH-PL/STP	Each	13319	817	14136
8-1-5	Supplying and erecting steel tubular swaged pole 165.1 x 139.7 x 114.3 mm dia. with 4.5 x4.5 x3.65 mm thickness (5.60 + 2.7 + 2.7 m) length total 11 m long with pole cap, base plate in provided foundation (weight 175 kg.) as per specification No. OH-PL/STP	Each	14814	921	15735
8-1-6	Supplying and erecting steel tubular swaged pole 165.1 x 139.7 x 114.3 mm dia. with 5.4 x 4.5 x 3.65 mm. thickness (5.8 + 3.1 + 3.1 mtr) length total 12 m long with pole cap, base plate in provided foundation (weight 208 kg.) as per specification No. OH-PL/STP	Each	17160	1339	18499
8-1-7	Supplying and erecting Rolled steel Joist (Girder) pole 150 x 80 mm/150 x75 mm (14.9 kg /m) with provided base plate in provided foundation as per specification No. OH-PL/RSJ	m	847	172	1019
8-1-8	Supplying and erecting Rolled steel Joist (Girder) pole 200 x 100 mm. (25.9 kg/m) with provided base plate in provided foundation as per specification No. OH-PL/RSJ	m	1457	172	1629

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-1-9	Supplying and erecting Rolled steel Joist (Girder) pole 175 x 85 mm (19.6 kg/m) with provided base plate in provided foundation as per specification No. OH-PL/RSJ	m	1102	172	1274
8-1-10	Supplying and erecting Rolled steel Joist (Girder) pole 100 x 116 mm (23 kg/m) with provided base plate in provided foundation as per specification No. OH-PL/RSJ	m	1298	172	1470
8-1-11	Supplying and erecting Rolled steel Joist (Girder) pole 125 x 70 mm (13.3 kg/m) with provided base plate in provided foundation as per specification No. OH-PL/RSJ	m	760	172	932
8-1-12	Supplying and erecting Rolled steel Joist (Girder) pole 152 x 152 mm (37.1 kg/m) with provided base plate in provided foundation as per specification No. OH-PL/RSJ	m	2074	172	2246
8-1-13	Supplying and erecting Rail pole (29.76 kg/m) with provided base plate in provided foundation as per specification No. OH-PL/RLP	m	1642	172	1814
Note:-	As per contour of the site and position of different obstacles / layout the length of RSJ pole to be considered for each pole, also selection of size of pole shall be made on the basis of strength of pole which will decide its utility as normal, intermediate, cut point etc. The measurement sheet should be attached in estimate/bill. Necessary arrangement for earthing shall be provided, also the base plate should be taken separately for item no 8.1.7 to 8.1.13 for each pole				
8-1-14	Supplying and erecting ISI mark G.I. pipe pole 'B' grade 80 mm dia 6 m long with pole cap, base plate in provided foundation as per specification No. OH-PL/GIP	Each	4780	318	5098
8-1-15	Supplying and erecting M.S. pipe pole 'B' grade 80 mm dia 6 m long with pole cap, base plate in provided foundation as per specification No. OH-PL/GIP	Each	4373	318	4691
8-1-16	Supplying and erecting steel tubular swaged type welded pole with upper portion hydraulically bent swan neck, 165.1 x 139.7 x 114.3 mm dia with 4.5 x 4.50 x 3.65 mm thickness (5 + 2 + 3 m) respectively (net vertical height 9 m.) total length 10 m long with base plate in provided foundation.(weight 156.75 kg) as per specification No. OH-PL/STP	Each	16579	852	17431

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-1-17	Supplying and erecting steel tubular swaged type welded pole with upper portion bent swan neck, 165.1 x 139.7 x 114.3 mm dia. with 4.5 x 4.5 x 3.65 mm thickness (5.6 + 2.7 + 2.7 m) respectively total 11 m long with base plate in provided foundation.(weight 175 kg) as per specification No. OH-PL/STP	Each	16882	953	17835
<u>8.2 PSC Poles(OH-PSC)</u>					
PSC Poles					
8-2-1	Supplying and erecting PSC rectangular pole of top 90 x 102 / 105 mm & bottom of 90 x 275 mm 8 m long (140 kg) complete erected in provided C. C. foundation & muffing (square/round) as per specification No. OH-PL/PSC	Each	2079	1213	3292
8-2-2	Supplying and erecting PSC rectangular pole of top 105 x 115 mm & bottom of 105 x 315 mm 9 m long (200 kg) complete erected in provided C. C. foundation & muffing (square/round) as per specification No. OH-PL/PSC	Each	2822	1066	3888
<u>8.3 Hot Dipped Galvanized Poles & High Mast (OH-HM)</u>					
8-3-1	Supplying and erecting 12.5 m (clear height) High Mast (Top-150mm, Bottom- 360mm) with lowering and raising motorized unit, lantern carriage assembly suitable for max. 6 nos. luminaries and its control gear box, lightning finial, arrangement for fixing aviation light and foundation bolts on provided foundation as per specification No. OH-PL/HM (excluding luminaries and CG Boxes.)	Set	201924	18619	220543
8-3-2	Supplying and erecting 16 m (clear height) High Mast (Top-150mm, Bottom- 360mm) with lowering and raising motorized unit, lantern carriage assembly suitable for max. 8 nos. luminaries and its control gear box, lightning finial, arrangement for fixing aviation light and foundation bolts on provided foundation as per specification No. OH-PL/HM (excluding luminaries and CG Boxes.)	Set	220742	25305	246047
8-3-3	Supplying and erecting 16 m (clear height) High Mast (Top-150 mm, Bottom- 410mm) with lowering and raising motorized unit, lantern carriage assembly suitable for max. 12 nos. luminaries and its control gear box, lightning finial, arrangement for fixing aviation light and foundation bolts on provided foundation as per specification No. OH-PL/HM (excluding luminaries and CG Boxes.)	Set	246328	25305	271633

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-3-4	Supplying and erecting 20 m (clear height) High Mast (Top- 150mm, Bottom- 410mm) with lowering and raising motorized unit, lantern carriage assembly suitable for max. 8 nos. luminaries and its control gear box, lightning finial, arrangement for fixing aviation light and foundation bolts on provided foundation as per specification No. OH-PL/HM (excluding luminaries and CG Boxes).	Set	293323	29088	322411
8-3-5	Supplying and erecting 20 m (clear height) High Mast (Top-150mm, Bottom- 460mm) with lowering and raising motorized unit, lantern carriage assembly suitable for max. 12 nos. luminaries and its control gear box, lightning finial, arrangement for fixing aviation light and foundation bolts on provided foundation as per specification No. OH-PL/HM (excluding luminaries and CG Boxes).	Set	312192	29088	341280
8-3-6	Supplying and erecting 25 m (clear height) High Mast (Top-150mm, Bottom- 540mm) with lowering and raising motorized unit, lantern carriage assembly suitable for max. 12 nos. luminaries and its control gear box, lightning finial, arrangement for fixing aviation light and foundation bolts on provided foundation as per specification No. OH-PL/HM (excluding luminaries and CG Boxes).	Set	361060	33969	395029
8-3-7	Supplying and erecting 25 m (clear height) High Mast (Top-200mm, Bottom- 560 mm) with lowering and raising motorized unit, lantern carriage assembly suitable for max. 16 nos. luminaries and its control gear box, lightning finial, arrangement for fixing aviation light and foundation bolts on provided foundation as per specification No. OH-PL/HM (excluding luminaries and CG Boxes).	Set	399495	33969	433464
8-3-8	Supply and erecting 9m (clear height) Fixed type High Mast (Top-100mm, Bottom- 200mm) with hexagonal/round bracket and foundation bolts suitable for max. 4nos floodlight fixtures on provided foundation as per specification no. OH-PL/OPL (excluding luminaries).	Set	24257	5027	29284
8-3-9	Supply and erecting 12.5m (clear height) Fixed type High Mast (Top-110mm, Bottom- 242 mm) with hexagonal/round bracket and foundation bolts suitable for max. 6 nos floodlight fixtures on provided foundation as per specification no. OH-PL/OPL (excluding luminaries)	Set	41872	11664	53536

Note:- High Mast rates are including High Mast and its accessories, foundation bolts and aviation obstruction lights.

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
Hot Dipped Galvanized OCTAGONAL Poles					
8-3-10	Providing & erecting 3 m high (clear height) galvanised OCTAGONAL pole with foundation bolts having bottom of 130 mm A/F, top 70 mm A/F on provided foundation as per specification No. OH-PL/OPL	Each	8359	1045	9404
8-3-11	Providing & erecting 4 m high (clear height) galvanised OCTAGONAL pole with foundation bolts having bottom of 130 mm A/F, top 70 mm A/F on provided foundation as per specification No. OH-PL/OPL	Each	9244	1045	10289
8-3-12	Providing & erecting 5 m high (clear height) galvanised OCTAGONAL pole with foundation bolts having bottom of 130 mm A/F, top 70 mm A/F on provided foundation as per specification No. OH-PL/OPL	Each	10163	1045	11208
8-3-13	Providing & erecting 6 m high (clear height) galvanised OCTAGONAL pole with foundation bolts having bottom of 130 mm A/F, top 70 mm A/F on provided foundation as per specification No. OH-PL/OPL	Each	11418	1045	12463
8-3-14	Providing & erecting 7 m high (clear height) galvanised OCTAGONAL pole with foundation bolts having bottom of 130 mm A/F, top 70 mm A/F on provided foundation as per specification No. OH-PL/OPL	Each	13079	1306	14385
8-3-15	Providing & erecting 8 m high (clear height) galvanised OCTAGONAL pole with foundation bolts having bottom of 135 mm A/F, top 70 mm A/F on provided foundation as per specification No. OH-PL/OPL	Each	14819	1567	16386
8-3-16	Providing & erecting 9 m high (clear height) galvanised OCTAGONAL pole with foundation bolts having bottom of 155 mm A/F, top 70 mm A/F on provided foundation as per specification No. OH-PL/OPL	Each	16621	1828	18449
8-3-17	Providing & erecting 10 m high (clear height) galvanised OCTAGONAL pole with foundation bolts having bottom of 175 mm A/F, top 70 mm A/F on provided foundation as per specification No. OH-PL/OPL	Each	19004	1828	20832
8-3-18	Providing & erecting 11 m high (clear height) galvanised OCTAGONAL pole with foundation bolts having bottom of 210 mm A/F, top 90 mm A/F on provided foundation as per specification No. OH-PL/OPL	Each	23366	2090	25456
8-3-19	Providing & erecting 12 m high (clear height) galvanised OCTAGONAL pole with foundation bolts having bottom of 240 mm A/F, top 90 mm A/F on provided foundation as per specification No. OH-PL/OPL	Each	26854	2351	29205

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
Hot Dipped Galvanized CONICAL Poles					
8-3-20	Providing & erecting 3 m high galvanised CONICAL pole with foundation bolts having bottom dia. from 105 to 115 mm, top dia. from 65 to 75 mm on provided foundation as per specification No. OH-PL/CPL	Each	10209	1045	11254
8-3-21	Providing & erecting 4 m high galvanised CONICAL pole with foundation bolts having bottom dia. from 115 to 130 mm, top dia. from 65 to 75 mm on provided foundation as per specification No. OH-PL/CPL	Each	11277	1045	12322
8-3-22	Providing & erecting 5 m high galvanised CONICAL pole with foundation bolts having bottom dia. from 125 to 145 mm, top dia. from 65 to 75 mm on provided foundation as per specification No. OH-PL/CPL	Each	12367	1045	13412
8-3-23	Providing & erecting 6 m high galvanised CONICAL pole with foundation bolts having bottom dia. from 135 to 160 mm, top dia. from 65 to 75 mm on provided foundation as per specification No. OH-PL/CPL	Each	13929	1045	14974
8-3-24	Providing & erecting 7 m high galvanised CONICAL pole with foundation bolts having bottom dia. 145 to 175 mm, top dia. 65 to 75 mm on provided foundation as per specification No. OH-PL/CPL	Each	15749	1306	17055
8-3-25	Providing & erecting 8 m high galvanised CONICAL pole with foundation bolts having bottom dia. from 155 to 190 mm, top dia. from 65 to 75 mm on provided foundation as per specification No. OH-PL/CPL	Each	17447	1567	19014
8-3-26	Providing & erecting 9 m high galvanised CONICAL pole with foundation bolts having bottom dia. from 165 to 200 mm, top dia. from 65 to 75 mm on provided foundation as per specification No. OH-PL/CPL	Each	20279	1828	22107
8-3-27	Providing & erecting 10 m high galvanised CONICAL pole with foundation bolts having bottom dia. from 175 to 200 mm, top dia. from 65 to 75 mm on provided foundation as per specification No. OH-PL/CPL	Each	23186	1828	25014
8-3-28	Providing & erecting 11 m high galvanised CONICAL pole with foundation bolts having bottom dia. from 195 to 245 mm, top dia. from 70 to 85 mm on provided foundation as per specification No. OH-PL/CPL	Each	28415	2090	30505
8-3-29	Providing & erecting 12 m high galvanised CONICAL pole with foundation bolts having bottom dia. from 216 to 260 mm, top dia. from 80 to 96 mm on provided foundation as per specification No. OH-PL/CPL	Each	32762	2351	35113

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-3-30	Providing and erecting Galvanised 1000mm single arm sword type bracket with FRP dome and ball as per specification No. OH-PL/PBKT	Each	2156	270	2426
8-3-31	Providing and erecting Galvanised 1000mm double arm sword type bracket with FRP dome and ball as per specification No. OH-PL/PBKT	Each	3873	270	4143
Note:-	1) For bracket length of 1500 mm (Single/double arm) increase overall rates by 20% 2) Above brackets are suitable for octagonal /conical poles from 3m to 12m length.				
<u>Highmast Control Panels</u>					
8-3-32	Supplying and erecting Outdoor Stand Mounted Feeder Pillar for highmast of the same manufacturer with 32A TPN MCB incomer , single dial timer switch, 25 A TP contactor for automatic switching of luminaries, 2 no 9A contactors and raise/lower push button, and provision for termination of Incoming minimum 35 sq. mm and outgoing minimum 16 & 2.5 sq. mm cables complete erected in min. 14 guage CRCA sheet box with supporting angles, self lock, gasket and slanting top erected on CC foundation in an approved manner.	Job	24027	2140	26167
8-3-33	Supplying and erecting Outdoor Stand Mounted Feeder Pillar for highmast of the same manufacturer with 63A TPN MCB incomer , single dial timer switch, 45 A TP contactor for automatic switching of luminaries, 2 no 9A contactors and raise/lower push button, and provision for termination of Incoming minimum 35 sq. mm and outgoing minimum 16 & 2.5 sq. mm cables complete erected in min. 14 guage CRCA sheet box powder coated with supporting angles, self lock, gasket and slanting top erected on CC foundation in an approved manner.	Job	29150	2140	31290
Note:-	For item no. 8-3-32 & 8-3-33 rates are inclusive of foundation.				
<u>8.4 Brackets (OH-BKT)</u>					
8-4-1	Supplying MS pole bracket for guarding , fabricated from angle iron 50x50x6 mm and 550 mm long for 2 insulators , and erecting on pole with 50x6mm clamp complete as per specification No. OH-PL/BKT	Each	302	103	405
8-4-2	Supplying MS pole bracket for guarding , fabricated from angle iron 50x50x6 mm and 1100mm long for 4 insulators , and erecting on pole with 50x6mm clamp complete as per specification No. OH-PL/BKT	Each	437	103	540

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-4-3	Supplying MS pole bracket , for guarding fabricated from ISMC Channel 75x40x 6.8 mm and 550 mm long for 2 insulators and erecting on pole with 50x6mm clamp complete as per specification No. OH-PL/BKT	Each	346	103	449
8-4-4	Supplying MS pole bracket , for guarding fabricated from ISMC Channel 75x40x 6.8 mm and 1100 mm long for 5 insulators and erecting on pole with 50x6mm clamp as per approved method of construction and complete as per specification No. OH-PL/BKT	Each	666	103	769
8-4-5	Supplying MS pole bracket for OH conductor fabricated from 65x65x6 mm section, 550 mm long for 2 insulators and erecting on pole with 50x6 mm clamp as per approved method of construction and complete as per specification No. OH-PL/BKT	Each	350	103	453
8-4-6	Supplying MS pole bracket for OH conductor fabricated from 65x65x6 mm section, 1100 mm long for 4 insulators and erecting on pole with 50x6 mm clamp as per approved method of construction and complete as per specification No. OH-PL/BKT	Each	673	103	776
8-4-7	Supplying pole bracket, for OH conductor fabricated from ISMC channel, 75x40x6.8 mm 550mm long for 2 insulators and erecting on pole with 50x6 mm clamp as per approved method of construction and complete as per specification No. OH-PL/BKT	Each	310	103	413
8-4-8	Supplying pole bracket, for OH conductor fabricated from ISMC channel, 75x40x6.8 mm 1100mm long for 4 insulators and erecting on pole with 50x6 mm clamp as per approved method of construction and complete as per specification No. OH-PL/BKT	Each	666	103	769
8-4-9	Supplying pole bracket,for OH conductor fabricated from ISMC channel, 75x40x6.8 mm, 550 mm long for two insulators and welded with extension channel pieces of same size 300 mm in length and erecting on pole with 50x6 mm clamp as per approved method of construction and complete as per specification No. OH-PL/BKT	Each	460	103	563
8-4-10	Supplying pole bracket , fabricated from ISMC channel, 75x40x6.8 mm, 1100 mm long for 4 insulators and welded with extension channel pieces of same size 300 mm. in length and erecting on pole with 50x6 mm clamp as per approved method of construction and complete as per specification No. OH-PL/BKT	Each	682	103	785

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-4-11	Supplying 100 x 50 mm with 4.7 mm thick web and 7.5 mm thick flange channel iron cross arm of suitable length for 2.4m wide DP structure and erecting on DP with 50x6 mm clamp as per approved method of construction and complete as per specification No. OH-PL/BKT.	Each	1861	205	2066
	Note:- For distance exceeding 2.4 m between two pole structure add Rs. 840/- per meter for extra channel length.				
8-4-12	Supplying and erecting Vee cross arm for 11kV HTOH line with arrangement to fix insulator at 45mm from the end & horizontal distance between insulators 1220 mm bent at angle of 60 degree keeping base 305 mm and the total vertical height of V cross arm as 460mm, and fixed on pole with MS clamp of 80x10 mm, nut bolts,washers complete as per specification No. OH-PL/VCA	Each	1693	205	1898
8-4-13	Supplying and erecting Vee cross arm for 22/33kV HTOH line with arrangement to fix insulator at 45mm from the end & horizontal distance between insulators 1530 mm bent at angle of 60 degree keeping base 310 mm and the total vertical height of V cross arm as 460mm, and fixed on pole with MS clamp of 80x10 mm, nut bolts,washers complete as per specification No. OH-PL/VCA	Each	2357	205	2562
8-4-14	Supplying and erecting 75x40 mm with 4.4 mm thick web and 7.3 mm thick flange channel (top pin) with clamp of suitable length so as to maintain vertical clearance of 1065 mm for 11 kV,1320 mm for 22 kV between insulators for erection of top pin insulators complete as per specification No. OH-PL/VCA	Each	430	103	533
8-4-15	Supplying and erecting bracket for guarding , made from channel iron 1600 mm in length and 75x40 mm. with 4.4 mm. thick web and 7.3 mm thick flange erected on pole complete as per specification no. OH-PL/VCA	Each	947	103	1050
8-4-16	Supplying and erecting bracket for guarding , made from channel iron 1600 mm in length and 65 x 65 x 6mm thick web and 7.3 mm thick flange erected on pole as per specification no. OH-PL/VCA	Each	848	103	951
<u>D. P. Structure</u>					
8-4-17	Supplying & erecting single pole cut point channel set of for 11 kV HTOH line, two channel of size 100 x 50 mm 1.6 m long having stud angle of size 50 x 50 x 6 mm 1.5 m long with top piece of size 100 x 50 mm 0.45 m long with necessary clamps, nut bolts etc. complete as	Each	3947	833	4780

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-4-18	<p>per drawing. Supplying & erecting inline D. P. Structure for 11/0.415 kV, 63 kVA Transformer with R.S.J. Pole 2 Nos. of size 100 x 116 mm x 11 m Long with suitable Distribution Box of C.R.C.A. Sheet 16 SWG (size 4 m².) with 4 Pole MCCB 100 Amps as incomer & 6 Nos. 63 Amps Kitkat for outing circuits. Transformer D.P. Structure includes the A. B. Switch 200 Amps, D.O. fuse Set & L.A. Set. 2 Nos. Top channel of size 100 mmx 50 mm for erection of A.B. Switch & 2 Nos. Base channel of size 100 mm x 50 mm for erecting Transformer. Channel of size 75 x 40 mm for erecting D.O. Fuse Set, L.A., A.B. Switch handle etc. Angle of size 50 x 50 x6 mm for erecting Distribution Box, Transformer Belt etc.as per drawing (min. 124 Kg. iron work) with necessary clamps, Nut-bolts. Vee cross arm, top clip, insulators etc. complete with caution board & barbed wire D.P. Structure shall be erected in c.c. foundation complete.</p>	Each	95365	23001	118366
8-4-19	<p>Supplying & erecting inline D. P. Structure for 11/0.415 kV, 100 kVA Transformer with R.S.J. Pole 2 Nos. of size 100 x 116 mm x 11 Mtr. Long with suitable Distribution Box of C.R.C.A. Sheet 16 SWG (size 4 SqMtr.) with 4 Pole MCCB 100 Amps as incomer & 6 Nos. 100 Amps Kitkat for outing circuits. Transformer D.P. Structure includes the A. B. Switch 200 Amps, D.O. fuse Set & L.A. Set. 2 Nos. Top channel of size 100 mmx 50 mm for erection of A.B. Switch & 2 Nos. Base channel of size 100 mm x 50 x mm for erecting Transformer. Channel of size 75 x40 mm for erecting D.O. Fuse Set, L.A., A.B. Switch handle etc. Angle of size 50 x 50 x6 mm for erecting Distribution Box , Transformer Belt etc.as per drawing (min. 124 Kg. iron work) with necessary clamps, Nut-bolts. Vee cross arm, top clip, insulators etc. complete with caution board & barbed wire.D.P. Structure shall be erected in c.c. foundation complete.</p>	Each	108752	23001	131753

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-4-20	Supplying & erecting inline D. P. Structure for 11/0.415 kV, 200 kVA Transformer with R.S.J. Pole 2 Nos. of size 100 x 116 mm x 11 Mtr. Long with suitable Distribution Box of C.R.C.A. Sheet 16 SWG (size 4 SqMtr.) with 4 Pole MCCB 100 Amps as incomer & 6 Nos. 100 Amps Kitkat for outing circuits. Transformer D.P. Structure includes the A. B. Switch 200 Amps, D.O. fuse Set & L.A. Set. 2 Nos. Top channel of size 100 mmx 50 mm for erection of A.B. Switch & 2 Nos. Base channel of size 100 mm x 50 x mm for erecting Transformer. Channel of size 75 x40 mm for erecting D.O. Fuse Set, L.A., A.B. Switch handle etc. Angle of size 50 x 50 x6 mm for erecting Distribution Box , Transformer Belt etc.as per drawing (min. 124 Kg. iron work) with necessary clamps, Nut-bolts. Vee cross arm, top clip, insulators etc. complete with caution board & barbed wire.D.P. Structure shall be erected in c.c. foundation complete.	Each	129938	23001	152939
8-4-21	Supplying & erecting inline cut point end pole D. P. Structure for 11/0.415 kV, 63 kVA Transformer with R.S.J. Pole 2 Nos. of size 100 x 116 mm x 11 Mtr. Long with suitable Distribution Box of C.R.C.A. Sheet 16 SWG (size 4 SqMtr.) with 4 Pole MCCB 100 Amps as incomer & 6 Nos. 63 Amps Kitkat for outing circuits. Transformer D.P. Structure includes the A. B. Switch 200 Amps, D.O. fuse Set & L.A. Set. 2 Nos. Top channel of size 100 mmx 50 mm for erection of A.B. Switch & 2 Nos. Base channel of size 100 mm x 50 x mm for erecting Transformer. Channel of size 75 x40 mm for erecting D.O. Fuse Set, L.A., A.B. Switch handle etc. Angle of size 50 x 50 x6 mm for erecting Distribution Box , Transformer Belt etc.as per drawing(min. 176 Kg. iron work) with necessary clamps, Nut-bolts. Vee cross arm, top clip, insulators etc. complete with caution board & barbed wire.D.P. Structure shall be erected in c.c. foundation complete.	Each	101556	23001	124557

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-4-22	Supplying & erecting inline cut point end pole D. P. Structure for 11/0.415 kV, 100 kVA Transformer with R.S.J. Pole 2 Nos. of size 100 x 116 mm x 11 Mtr. Long with suitable Distribution Box of C.R.C.A. Sheet 16 SWG (size 4 SqMtr.) with 4 Pole MCCB 100 Amps as incomer & 6 Nos.100 Amps Kitkat for outing circuits. Transformer D.P. Structure includes the A. B. Switch 200 Amps, D.O. fuse Set & L.A. Set. 2 Nos.Top channel of size 100 mmx 50 mm for erection of A.B. Switch & 2 Nos. Base channel of size 100 mm x 50 x mm for erecting Transformer. Channel of size 75 x40 mm for erecting D.O. Fuse Set, L.A., A.B. Switch handle etc.Angle of size 50 x 50 x6 mm for erecting Distribution Box , Transformer Belt etc.as per drawing(min. 176 Kg. iron work) with necessary clamps, Nut-bolts. Vee cross arm, top clip, insulators etc. complete with caution board & barbed wire.D.P. Structure shall be erected in c.c. foundation complete.	Each	114375	23001	137376
8-4-23	Supplying & erecting inline cut point end pole D. P. Structure for 11/0.415 kV, 200 KVA Transforme with R.S.J. Pole 2 Nos. of size 100 x 116 mm x 11 Mtr. Long with suitable Distribution Box of C.R.C.A. Sheet 16 SWG (size 4 SqMtr.) with 4 Pole MCCB 100 Amps as incomer & 6 Nos. 63 Amps Kitkat for outing circuits. Transformer D.P. Structure includes the A. B. Switch 200 Amps, D.O. fuse Set & L.A. Set. 2 Nos.Top channel of size 100 mmx 50 mm for erection of A.B. Switch & 2 Nos. Base channel of size 100 mm x 50 x mm for erecting Transformer. Channel of size 75 x40 mm for erecting D.O. Fuse Set, L.A., A.B. Switch handle etc.Angle of size 50 x 50 x6 mm for erecting Distribution Box , Transformer Belt etc.as per drawing (min.176 Kg. iron work) with necessary clamps, Nut-bolts. Vee cross arm, top clip, insulators etc. complete with caution board & barbed wire.D.P. Structure shall be erected in c.c. foundation complete.	Each	133938	23001	156939

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-4-24	Supplying & erecting end pole D. P. Structure for 11/0.415 kV, 63 kVA Transformer with R.S.J. Pole 2 Nos. of size 100 x 116 mm x 11 Mtr. Long with suitable Distribution Box of C.R.C.A. Sheet 16 SWG (size 4 SqMtr.) with 4 Pole MCCB 100 Amps as incomer & 6 Nos. 63 Amps Kitkat for outing circuits. Transformer D.P. Structure includes the A. B. Switch 200 Amps, D.O. fuse Set & L.A. Set. 2 Nos. Top channel of size 100 mmx 50 mm for erection of A.B. Switch & 2 Nos. Base channel of size 100 mm x 50 x mm for erecting Transformer. Channel of size 75 x40 mm for erecting D.O. Fuse Set, L.A., A.B. Switch handle etc. Angle of size 50 x 50 x6 mm for erecting Distribution Box , Transformer Belt etc.as per drawing (min. 124 Kg. iron work) with necessary clamps, Nut-bolts. Vee cross arm, top clip, insulators etc. complete with caution board & barbed wire. D.P. Structure shall be erected in c.c. foundation complete.	Each	97989	23001	120990
8-4-25	Supplying & erecting end pole D. P. Structure for 11/0.415 kV, 100 kVA Transformer with R.S.J. Pole 2 Nos. of size 100 x 116 mm x 11 Mtr. Long with suitable Distribution Box of C.R.C.A. Sheet 16 SWG (size 4 SqMtr.) with 4 Pole MCCB 100 Amps as incomer & 6 Nos. 100 Amps Kitkat for outing circuits. Transformer D.P. Structure includes the A. B. Switch 200 Amps, D.O. fuse Set & L.A. Set. 2 Nos. Top channel of size 100 mmx 50 mm for erection of A.B. Switch & 2 Nos. Base channel of size 100 mm x 50 x mm for erecting Transformer. Channel of size 75 x40 mm for erecting D.O. Fuse Set, L.A., A.B. Switch handle etc. Angle of size 50 x 50 x6 mm for erecting Distribution Box , Transformer Belt etc.as per drawing (min. 124 Kg. iron work) with necessary clamps, Nut-bolts. Vee cross arm, top clip, insulators etc. complete with caution board & barbed wire. D.P. Structure shall be erected in c.c. foundation complete.	Each	109185	23001	132186

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-4-26	Supplying & erecting end pole D. P. Structure for 11/0.415 kV, 200 kVA Transformer with R.S.J. Pole 2 Nos. of size 100mm x 116 mm x 11 m Long with suitable Distribution Box of C.R.C.A. Sheet 16 SWG (size 4 m ²) with 4 Pole MCCB 100 Amps as incomer & 6 Nos.100 Amps Kitkat for outing circuits. Transformer D.P. Structure includes the A. B. Switch 200 Amps, D.O. fuse Set & L.A. Set. 2 Nos.Top channel of size 100 mmx 50 mm for erection of A.B. Switch & 2 Nos. Base channel of size 100 mm x 50 x mm for erecting Transformer. Channel of size 75 x40 mm for erecting D.O. Fuse Set, L.A., A.B. Switch handle etc.Angle of size 50 x 50 x6 mm for erecting Distribution Box , Transformer Belt etc.as per drawing (min. 124 Kg. iron work) with necessary clamps, Nut-bolts. Vee cross arm, top clip, insulators etc. complete with caution board & barbed wire.D.P. Structure shall be erected in c.c. foundation complete.	Each	130371	23001	153372
Note:-	<p>1. All the brackets, cross arms are included with clamps, washers and nut bolts.</p> <p>2. For all components in the DP structure for pole mounted transformer the respective specifications will be applicable.</p>				
<u>8.5 Conductors (OH-CON)</u>					
8-5-1	Supplying and erecting all aluminium stranded conductors 7/1.96 mm complete.(Rose) (58 kg/km) as per specification No. OH-CON/AAC	km	13640	1485	15125
8-5-2	Supplying and erecting all aluminium stranded conductors 7/2.21 mm.complete.(Gnat) (73.77kg/km) as per specification No. OH-CON/AAC	km	21397	1485	22882
8-5-3	Supplying and erecting all aluminium stranded conductors 7/2.48 mm.complete.(Iris) (91.8 kg/km) as per specification no. OH-CON/AAC	km	21891	1485	23376
8-5-4	Supplying and erecting all aluminium stranded conductors 7/2.78 mm.complete.(Pansy) (115.8 kg/km) as per specification No. OH-CON/AAC	km	27602	2136	29738
8-5-5	Supplying and erecting all aluminium stranded conductors 7/3.10 mm. complete.(Ant.) (145.0 kg/km) as per specification No. OH-CON/AAC	km	34101	2136	36237
8-5-6	Supplying and erecting ACSR conductor of size 6/1-2.11 mm complete. (squirrel) (85kg/km) as per specification No. OH-CON/ACSR	km	17521	1485	19006

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-5-7	Supplying and erecting ACSR conductor of size 6/1-2.59 mm complete. (Weasel) (127.7 kg/km) as per specification No. OH-CON/ACSR	km	18821	2136	20957
8-5-8	Supplying and erecting ACSR conductor of size 6/1-3.60 mm complete. (Ferret) (171.3 kg/km) as per specification No. OH-CON/ACSR	km	35692	2322	38014
8-5-9	Supplying and erecting ACSR conductor of size 6/1-3.66 mm complete. (Mink) (255 kg/km) as per specification No. OH-CON/ACSR	km	56443	2322	58765
8-5-10	Supplying and erecting ACSR conductor of size - 6/1-4.09 mm (Raccon) complete. (318.00 kg/km) as per specification No. OH-CON/ACSR	km	70831	2322	73153
8-5-11	Supplying and erecting ACSR conductor of size - 6/1-4.72 mm (Dog) complete. (394.00 kg/km) as per specification No. OH-CON/ACSR	km	87210	2879	90089
8-5-12	Supplying and erecting hard drawn G.I. wire 8 SWG complete erected for overhead line with proper size of G.I. wire for binding with jumpering etc.	km	7902	710	8612
8.6 Insulators (OH-INS)					
8-6-1	Supplying and erecting pin type LT medium insulator 100 mm x 62 mm dia. with suitable G.I. spindle, nut, bolts complete erected.	Each	60	19	79
8-6-2	Supplying and erecting porcelain shackle type LT medium insulator 75x115 mm dia. with G.I. strips, nuts and bolts, complete.	Each	34	19	53
8-6-3	Supplying and erecting porcelain shackle type LT medium insulator 50 x 89 mm dia. with G.I. strips, nuts and bolts, complete.	Each	31	19	50
8-6-4	Supplying and erecting aluminium bobbin with G.I. strip, nuts complete.	Each	76	19	95
8-6-5	Providing and fixing earthing stud with necessary materials.	Each	53	8	61
8-6-6	Supplying and erecting porcelain disc type insulator suitable for 11kV line, complete as per specification No. OH-INS/DI	Each	887	359	1246
8-6-7	Supplying and erecting porcelain disc type insulator suitable for 22kV line, complete as per specification No. OH-INS/DI	Each	1335	359	1694
8-6-8	Supplying and erecting porcelain disc type insulator suitable for 33 kV line complete as per specification No. OH-INS/DI	Each	1801	359	2160
8-6-9	Supplying and erecting porcelain pin type insulator suitable for 11kV line, complete as per specification No. OH-INS/PN	Each	100	185	285

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-6-10	Supplying and erecting porcelain pin type insulator suitable for 22kV line, complete as per specification No. OH-INS/PN	Each	180	185	365
8-6-11	Supplying and erecting porcelain pin type insulator suitable for 33kV line, complete as per specification No. OH-INS/PN	Each	510	251	761
8-6-12	Supplying and erecting porcelain post type insulator suitable for 11kV line , complete as per specification No. OH-INS/PST	Each	405	185	590
8-6-13	Supplying and erecting porcelain post type insulator suitable for 22kV line , complete as per specification No. OH-INS/PST	Each	525	185	710
8-6-14	Supplying and erecting porcelain post type insulator suitable for 33kV line, complete as per specification No. OH-INS/PST	Each	645	300	945
8-6-15	Supplying and erecting Distribution class, 11 kV thyrite type lightning arrester , on provided cross arm as per specification No. OH-INS/LA	Each	981	359	1340
8-6-16	Supplying and erecting Distribution class, 22 kV thyrite type lightning arresters , on provided cross arm as per specification No. OH-INS/LA	Each	993	359	1352
8.7 Accessories					
8-7-1	Supplying and erecting G.I. stay set for poles , including loop insulators at inaccessible height complete with anchor plate 300 x 300 x 6 mm., straining screws, G.I. stay wire 7/10 SWG , G.I. stay rod 20 mm x 1.8 m length and pole clamps duly erected in provided cement concrete foundation.	Each	1296	254	1550
8-7-2	Supplying and erecting G.I. stay set for poles , including loop insulators at inaccessible height complete with anchor plate 300 x 300 x 6 mm., straining screws, G.I. stay wire 7/8 SWG , G.I. stay rod 20 mm x 1.8 m length and pole clamps duly erected in provided cement concrete foundation.	Each	1572	254	1826
8-7-3	Supplying and erecting G.I. fly stay set for pole including straining screw, G.I. stay wire, 7/10 SWG (for to 15mtr. long) with pole clamp, made of 50 x 6 mm MS flat, complete erected on provided RSJ pole. (Add. Rs. 25/- per m for extra length beyond 15 m)	Each	1430	382	1812

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-7-4	Supplying and erecting G.I. self stay set for pole , including anchor plate 300x 300 x 6 mm. straining screw, loop-insulator, G.I. stay wire 7/10 SWG, G.I. stay rod 20 mm x 1.8 m long, erected with pole clamps along with angle iron bracket of 50 x 50 x 6 mm and one meter long fixed to pole at suitable height with suitable MS clamps duly erected in provided C.C. foundations.	Each	1436	254	1690
8-7-5	Supplying and erecting G.I. wall hook , 10 to 15 mm dia and overall length 250 mm including grouting, cement plastering etc. complete.	Each	33	19	52
8-7-6	Supplying and erecting pipe post made from ISI mark G.I. pipe 40 mm dia 3 m overall length, with two bends, fixed to pipe at the top & bottom, round bended, complete erected with MS flat welded MS bolts 15 cm long duly grouted in wall with necessary clamps, nuts and bolts etc. duly painted with two coats of aluminium paint complete.	Each	1225	127	1352
8-7-7	Supplying and erecting pipe post made from ISI mark G.I. pipe 25 mm dia 3 m overall length, with two bends, fixed to pipe at the top & bottom, round bended, complete erected with MS flat welded MS bolts 15 cm long duly grouted in wall with necessary clamps, nuts and bolts etc. duly painted with two coats of aluminium paint complete.	Each	921	127	1048
8-7-8	Supplying and erecting guarding loop using G.I. wire No. 8 SWG for L.T. over head line of horizontal formation complete erected with 20 SWG G.I. wire as binding wire and 50 mm. section on each side, complete.	Each	25	21	46
8-7-9	Supplying and erecting fibre/ PVC spacers for L.T. overhead line 3 to 5 conductors complete erected.	Each	108	21	129
8-7-10	Supplying and erecting pole clamp made from 50 x 6 mm MS flat for pole or pipe, post complete erected with 15 mm bolts and nuts, complete duly painted with one coat of red oxide and two coats of aluminium paint.	Each	186	31	217
8-7-11	Supplying and erecting pole clamp made from 50 x 10 mm MS flat for pole or pipe, post complete erected with 15 mm bolts and nuts, complete duly painted with one coat of red oxide and two coats of aluminium paint.	Each	263	31	294
8-7-12	Supplying and erecting 'D' type pole clamps , fabricated from 50 x 6 mm MS flat with 15 mm dia. bolts and nut fixed to steel tubular pole duly painted with one coat of red oxide and two coats of aluminium paint.	Each	120	31	151

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
8-7-13	Supplying and erecting half clamps for pole made from 50 x 6 mm flat for fixing cross arms by means of 15 mm dia. bolts and nuts painted with one coat of red oxide and two coats of aluminium paint.	Each	120	31	151
8-7-14	Supplying and erecting half clamps for pole made from 50 x 10 mm flat for fixing cross arms by means of 15 mm dia. bolts and nuts painted with one coat of red oxide and two coats of aluminium paint.	Each	161	31	192
8-7-15	Supplying and fixing MS base plate 30x30x0.6 cm size fixed to the pole base either by welding or by set screws 12 mm. dia fixed at position.	Each	376	31	407
8-7-16	Supplying and fixing MS round base plate 25 cm dia meter and 10mm. thick fixed to pole by set screws or welded and fixed at position.	Each	372	31	403
8-7-17	Supplying and fixing MS pole cap fabricated from MS pipe or cast iron fixed to pole by means of set screws and 75 mm deep.	Each	92	31	123
8-7-18	Supplying and erecting guarding lace for H.T.O.H. line with 8 SWG G.I. wire to protect the H.T. over head line with binding wire of 20 SWG G.I. wire for 75 mm section on either side.	Each	29	21	50
8.8 Dismantling					
8-8-1	Dismantling the existing pole up to 6 m height with brackets, clamps, insulators, stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to the ground level.	Each	0	491	491
8-8-2	Dismantling the existing pole above 6 m height with brackets, clamps, insulators, stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to the ground level.	Each	0	800	800
8-8-3	Dismantling the existing overhead line including G.I. wires of all sizes without damaging & making the coils in suitable sizes.	km	0	1110	1110
8-8-4	Dismantling existing lightning arrester set, insulator complete from DP structure in an approved manner	job	0	93	93

Chapter 9
EARTHING (EA)

9.1 Plate, Pipe type Earthing

(EA-EP)

9.2 Accessories

9.3 Lightning Conductor and Accessories

Chapter : 9 Earthing (EA)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
9.1 Plate, Pipe type Earthing (EA-EP)					
9-1-1	Providing earthing with Galvanized cast iron earth plate size 60 x 60 x 0.6 cm complete with all materials, testing & recording the results as per specification No. EA-EP	Each	3635	1115	4750
9-1-2	Providing earthing with Copper earth plate size 30 x 30 x 0.315 cm complete with all materials, testing & recording the results as per specification No. EA-EP	Each	6249	1115	7364
9-1-3	Providing earthing with Galvanized cast iron earth plate size 60 x 60 x 0.6 cm with funnel with a wire mesh for watering and brick masonry block C.I. cover complete with all materials, testing & recording the results as per specification No. EA-EP	Each	4979	1115	6094
9-1-4	Providing pipe type earthing with 40mm. dia. G.I. pipe or 20 mm dia. G.I. Rod complete with all materials as per specification No. EA-EP	Each	1076	445	1521
9-1-5	Supply, Installation, Testing and commissioning of UL Certified / CPRI Tested Maintenance Free Earthing comprising of Electrode of 17.2 mm diameter Low Carbon Steel with 250 micron Molecular Copper Bonded Earthing Rod of Length 3m along with 25 kg Carbon Based environment friendly back fill Ground Enhancing compound required to fill up the excavated earth with required quantity as per specification no EA-MOBI	Each	14718	1217	15935
9-1-6	Providing earthing with Copper earth plate size 60 x 60 x 0.315 cm with funnel with a wire mesh for watering and brick masonry block C.I. cover with minimum 25 kg of maintenance free earth conductivity enhancing mineral earthing compound complete with all materials, testing & recording the results as per specification no ESE -LA	Each	17284	1115	18399
Note:-	<p>1) Resistivity of the soil shall be checked and no of Terrec Compound bags shall be used as per guidelines elaborated in specification.</p> <p>2) Additional G.I. Pipe required from earth pit & GI/Copper wire / strip more than 8 m in length from earth pit to installation to be provided separately.</p> <p>3) Record entries for earthing work shall be maintained.</p> <p>4) Requirement of no of bags shall be decided with respect to soil resistivity.</p>				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
9.2 Accessories					
9-2-1	Supplying and erecting aluminium strip of required sizes used for earthing on wall and/or any other purpose with necessary aluminium clamps fixed on wall painted with bituminous paint in an approved manner with joints required. As per specification No EA-EP .	Kg.	343	77	420
9-2-2	Supplying and erecting copper strip of required size used for earthing on wall and/or any other purpose with necessary copper clamps fixed on wall painted with bituminous paint in an approved manner with joints required. As per specification No EA-EP .	Kg.	774	77	851
9-2-3	Supplying and erecting GI strip of required size used for earthing on wall and/or any other purpose with necessary GI clamps fixed on wall painted with bituminous paint in an approved manner with joints required. As per specification No EA-EP .	Kg.	113	77	190
9-2-4	Supplying and erecting Annealed bare copper wire of high purity of different sizes used for earthing on wall with necessary copper clamps fixed on wall/cable/conduit with screws in an approved manner.	Kg.	816	77	893
9-2-5	Supplying and erecting G. I. Earth Wire of high purity of different sizes used for earthing or any other purposes on wall with necessary G. I. Clamps fixed on wall/cable/ conduit with screws in an approved manner.	Kg.	100	77	177
9-2-6 (NEW)	Supplying and erecting aluminium strip of required sizes used for earthing on wall and/or any other purpose with necessary aluminium clamps fixed on wall with insulating and non corrosive bond in an approved manner with joints required. As per specification No EA-EP .	Kg.	690	90	780
9-2-7 (NEW)	Supplying and erecting copper strip of required size used for earthing on wall and/or any other purpose with necessary copper clamps fixed on wall painted with insulating and non corrosive bond in an approved manner with joints required. As per specification No EA-EP .	Kg.	1244	90	1334
9-2-8 (NEW)	Supplying and erecting GI strip of required size used for earthing on wall and/or any other purpose with necessary GI clamps fixed on wall painted with insulating and non corrosive bond in an approved manner with joints required. As per specification No EA-EP .	Kg.	438	90	528

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>9.3 Lightning Conductor and Accessories</u>					
9-3-1	Supplying & erecting conventional spike type air termination suitable to carry lightning stroke made up of heavy gauge 40 mm dia copper pipe of standard length with 5 Nos. copper spikes fixed on copper ball as air terminals duly threaded in copper pipe erected on provided foundation in an approved manner.	Each	4584	439	5023
9-3-2	Providing and Back filling earth conductivity enhancing mineral earthing compound of 25 kg Bag complete.	Each	6147	180	6327

Chapter 10
SUB STATION (SS)

10.1 Transformers

(SS-TR)

10.2 Accessories

10.3 Dismantling

Chapter 10 : Sub Station (SS)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>10.1 Transformers (SS-TR)</u>					
10-1-1	Supplying and Erecting approved make 63 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 11/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 340 watts at 50% load, 1140 watts at 100% load as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	281245	6961	288206
10-1-2	Supplying and Erecting approved make 100 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 11/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 475 watts at 50% load, 1650 watts at 100% load as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	295984	7356	303340

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-3	Supplying and Erecting approved make 160 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 11/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 670 watts at 50% load, 1950 watts at 100% load as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	391211	8146	399357
10-1-4	Supplying and Erecting approved make 200 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 11/0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 780 watts at 50% load, 2300 watts at 100% load as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	447941	8937	456878
10-1-5	Supplying and Erecting approved make 250 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 11/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 980 watts at 50% load, 2930 watts at 100% load as per IS:1180 - 2014 Level II) as per specification	Each	472660	10713	483373

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	No SS- TR.with necessary permission of Electrical Inspector				
10-1-6	Supplying and Erecting approved make 315 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 11/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 1025 watts at 50% load, 3100 watts at 100% load as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	524933	12689	537622
10-1-7	Supplying and Erecting approved make 500 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 11/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 1510 watts at 50% load, 4300 watts at 100% load as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	732271	13480	745751

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-8	Supplying and Erecting approved make 630 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 11/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 1860 watts at 50% load, 5300 watts at 100% load as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	888686	14665	903351
10-1-9	Supplying and Erecting approved make 63 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 22/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 357 watts at 50% load, 1197 watts at 100% load as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	205484	6961	212445
10-1-10	Supplying and Erecting approved make 100 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 22/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 499 watts at 50% load, 1733 watts at 100% load as per IS:1180 - 2014 Level II) as per specification	Each	267213	7356	274569

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	No SS- TR.with necessary permission of Electrical Inspector				
10-1-11	Supplying and Erecting approved make 160 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 22/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 704 watts at 50% load, 2048 watts at 100%load as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	337721	8146	345867
10-1-12	Supplying and Erecting approved make 200 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 22/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 819 watts at 50% load, 2415 watts at 100% load as per IS:1180 - 2014 Level II) as per specification No SS- TR.	Each	388509	8937	397446

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-13	Supplying and Erecting approved make 250 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 22/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 1029 watts at 50% load, 3077 watts at 100% load as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	472660	10713	483373
10-1-14	Supplying and Erecting approved make 315 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 22/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 1077 watts at 50% load, 3255 watts at 100% load as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	524933	12689	537622
10-1-15	Supplying and Erecting approved make 500 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type , Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 22/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 1586 watts at 50% load, 4515 watts at 100% load as per IS:1180 - 2014 Level II) as per specification	Each	732271	13480	745751

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-16	<p>No SS- TR.with necessary permission of Electrical Inspector</p> <p>Supplying and Erecting approved make 630 kVA,3 phase, 50 c/s Oil immersed and naturally cooled outdoor type, Copper wound transformer with Energy Efficiency Level -2 , BIS Standard with delta connected. on HV side & star connection on LV side with additional neutral brought out on load side,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating, voltage rating 22/ 0.433 kV with HV tapping(with off load tap changer) Tappings on Transformer For Off Load +5 to -10 in Steps of 2.5% ,with standard accessories complete with Test Certificate with losses below 1953 watts at 50% load, 5565 watts at 100% load as per IS:1180 - 2014 Level II) as per specification</p> <p>No SS- TR.with necessary permission of Electrical Inspector</p> <p>Note :- 1).For Indoor type Transformer Add Rs. 15000/- in Overall Rate of Transformer.</p> <p>2) For use of Transformer with aluminium winding for 63/100/200 kVA capacity. (To be used only for Licensee Job), Rates shall be reduced by 15 % from the material rates for Transformer with Copper winding.)</p> <p>3) For item No. 10-1-1 & 10-1-2 reduce the material rate by 5% for transformer without off Load Tap Changer.</p>	Each	888686	14665	903351
10-1-17	<p>Inspection of faulty distribution transformer 11kV / 22kV on HV side, 415 V on LV side upto 500 kVA capacity in workshop in presence of authority by opening top cover, disconnecting HV & LV studs, tap changer connections; taking out core along with winding for inspection and carrying out necessary tests on HV, LV side, oil, tap-changer etc. checking breather, body condition etc. and submitting inspection report, test reports (oil, insulation, resistance, ratio,etc.) and quotation for repairs, (excluding transportation)</p>	Job	0	3895	3895
10-1-18	<p>Providing and maintaining distribution transformer 11kV / 22 kV on HV side 415 V on LV side up to 63 to 200 kVA Capacity for ten days on hired basis.</p>	Job	0	19227	19227
10-1-19	<p>Providing and maintaining distribution transformer 11kV / 22 kV on HV side 415 V on LV side up to 250 to 500 kVA Capacity for ten days on hired basis.</p>	Job	0	30214	30214

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-20	Providing and maintaining distribution transformer 11/ 22 kV on HV side 415 V on LV side upto 500 kVA capacity on hired basis subsequent to first ten days after commissioning.	Job	0	137	137
10-1-21	Erecting 11kV / 22 kV on HV side 415 V on LV side up to 500 kVA capacity hired/provided transformer on existing plinth / DP structure, making connections on HV & LV side in approved manner, carrying out necessary tests before and after charging upto full load to satisfaction.(including transportation)	Job	3350	8452	11802
Note :-	<p>1)Hiring and maintaining distribution transformer 11/22 kV includes keeping it in working condition with required tools and plant, labour etc</p> <p>2) The above rates for item no 10-1-18 to 10-1-20 are to be implemented whenever there is a transformer required in lieu of faulty transformer and transportation, erection, testing etc are to be considered separately</p>				
10-1-22	Supplying and Erecting approved make 15 KVA,SINGLE PHASE, 11 KV/V3/250V Oil cooled with CSP Features outdoor type, Alluminium wound transformer with Energy Efficiency Level -2 , BIS Standard ,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating,with 5 % continuously rated for full load with standard accessories complete with Test Certificate with losses should be below 82 Watt at 50% Load & 224 Watt at 100 % Load& first filling of oil having Vector Group- DYN-11 & first filling of silica gel, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	64990	2892	67882
10-1-23	Supplying and Erecting approved make 25 KVA,SINGLE PHASE, 11 KV/V3/250V Oil cooled with CSP Features outdoor type, Alluminium wound transformer with Energy Efficiency Level -2 , BIS Standard ,Temp rise should not Exceeding 400 C by thermometer in oil and 450C by the resistance in winding at full load rating,with 5 % continuously rated for full load with standard accessories complete with Test Certificate with losses should be below 110 Watt at 50% Load & 300Watt at 100 % Load & first filling of oil having Vector Group- DYN-11 & first filling of silica gel, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	82658	3175	85833
10-1-24	Deleted				
10-1-25	Deleted				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-26	Deleted				
10-1-27	Deleted				
10-1-28 (New)	Supplying and Erecting approved make Compact Substation with 63 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 11/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 340 watts at 50% load, 1140 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	837927	6402	844329
10-1-29 (New)	Supplying and Erecting approved make Compact Substation with 100 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 11/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 475 watts at 50% load, 1650 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	934337	6797	941134
10-1-30 (New)	Supplying and Erecting approved make Compact Substation with 160 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 11/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 670 watts at 50% load, 1950 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1119685	7588	1127273

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-31 (New)	Supplying and Erecting approved make Compact Substation with 200 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 11/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 780 watts at 50% load, 2300 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1290813	8378	1299191
10-1-32 (New)	Supplying and Erecting approved make Compact Substation with 250 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 11/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 980 watts at 50% load, 2930 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1362398	9564	1371962
10-1-33 (New)	Supplying and Erecting approved make Compact Substation with 315 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 11/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 1025 watts at 50% load, 3100 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1591050	11540	1602590

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-34 (New)	Supplying and Erecting approved make Compact Substation with 500 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 11/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 1510 watts at 50% load, 4300 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	2106683	12331	2119014
10-1-35 (New)	Supplying and Erecting approved make Compact Substation with 630 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 11/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 1860 watts at 50% load, 5300 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	2375910	13517	2389427
10-1-36 (New)	Supplying and Erecting approved make Compact Substation with 63 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 22/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 357 watts at 50% load, 1197 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	943657	6402	950059

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-37 (New)	Supplying and Erecting approved make Compact Substation with 100 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 22/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 499 watts at 50% load, 1733 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1071079	6797	1077876
10-1-38 (New)	Supplying and Erecting approved make Compact Substation with 160 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 22/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 704 watts at 50% load, 2048 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1247830	7588	1255418
10-1-39 (New)	Supplying and Erecting approved make Compact Substation with 200 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 22/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 819 watts at 50% load, 2415 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1408032	8378	1416410

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-40 (New)	Supplying and Erecting approved make Compact Substation with 250 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 22/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 1029 watts at 50% load, 3077 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1528223	9564	1537787
10-1-41 (New)	Supplying and Erecting approved make Compact Substation with 315 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 22/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 1077watts at 50% load, 3255 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1752537	11540	1764077
10-1-42 (New)	Supplying and Erecting approved make Compact Substation with 500 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 22/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 1586 watts at 50% load, 4515 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	2346905	12331	2359236

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-43 (New)	Supplying and Erecting approved make Compact Substation with 630 kVA,3 phase, 50 c/s Oil immersed Copper wound transformer having INDOOR TYPE TRANSFORMER BUSHINGS,with Energy Efficiency Level -2 , BIS Standard voltage rating 22/ 0.433 kV with HT side (Incoming side) LOAD BREAK SWITCH of Appropriate Capacity and LT side (Outgoing side) MCCBs (4 Pole) of appropriate Capacity , with Metering Cubical Inbuilt,with standard accessories complete with Test Certificate with losses below 1953 watts at 50% load, 5565 watts at 100% load for Transformer, as per IS:1180 - 2014 Level II) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	2645857	13517	2659374
10-1-44 (New)	Supplying and Erecting approved make 315 kVA,3 phase, 50 c/s, Reference Standard IS:11171 & IS 2026,Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer , Copper wound , Dyn11 Vector Group,with delta connection on HV side & star connection on LV side with additional neutral brought out on load side, For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 11/ 0.433 kV with Tapping(with off circuit Tap Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 1 KW, Full Load Loss at Rated Current 3.15 KW , with 98.70% Efficiency at Full Load & 98.88 % at 1/2 Full Load, with 75 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclouser having IP 21 Degree of protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	803417	12658	816075

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-45 (New)	Supplying and Erecting approved make 400 kVA,3 phase, 50 c/s, Reference Standard IS:11171 & IS 2026,Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer , Copper wound , Dyn11 Vector Group, with delta connection on HV side & star connection on LV side with additional neutral brought out on load side, For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 11/ 0.433 kV with Tapping(with off circuit Tap Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 1.15 KW, Full Load Loss at Rated Current 3.60 KW , with 98.83 % Efficiency at Full Load & 98.99 % at 1/2 Full Load, with 75 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclosure having IP 21 Degree of protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS-TR.with necessary permission of Electrical Inspector	Each	896119	13448	909567
10-1-46 (New)	Supplying and Erecting approved make 500 kVA,3 phase, 50 c/s, Reference Standard IS:11171 & IS 2026,Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer , Copper wound , Dyn11 Vector Group,with delta connection on HV side & star connection on LV side with additional neutral brought out on load side, For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 11/ 0.433 kV with Tapping(with off circuit Tap Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 1.50 KW, Full Load Loss at Rated Current 4.50 KW , with 98.81 % Efficiency at Full Load & 98.96 % at 1/2 Full Load, with 75 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclouser having IP 21 Degree of	Each	982641	14634	997275

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-47 (New)	<p>protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS-TR.with necessary permission of Electrical Inspector</p> <p>Supplying and Erecting approved make 630 kVA,3 phase, 50 c/s, Referrance Standard IS:11171 & IS 2026,Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer, Copper wound , Dyn11 Vector Group,with delta connection on HV side & star connection on LV side with additional neutral brought out on load side,For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 11/0.433 kV with Tapping(with off circuit Tap Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 1.60 KW, Full Load Loss at Rated Current 5.00 KW, with 98.96 % Efficiency at Full Load & 99.10 % at 1/2 Full Load, with 75 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclouser having IP 21 Degree of protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS-TR.with necessary permission of Electrical Inspector</p>	Each	1143324	15820	1159144

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-48 (New)	Supplying and Erecting approved make 750 kVA,3 phase, 50 c/s, Referrance Standard IS:11171 & IS 2026,Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer , Copper wound , Dyn11 Vector Group,with delta connection on HV side & star connection on LV side with additional neutral brought out on load side,For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 11/0.433 kV with Tapping(with off circuit Tap Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 1.90 KW, Full Load Loss at Rated Current 6.75 KW , with 98.86 % Efficiency at Full Load & 99.05 % at 1/2 Full Load, with 75 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclouser having IP 21 Degree of protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS-TR.with necessary permission of Electrical Inspector	Each	1205126	17005	1222131
10-1-49 (New)	Supplying and Erecting approved make 1000 kVA,3 phase, 50 c/s, Referrance Standard IS:11171 & IS 2026, Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer , Copper wound , Dyn11 Vector Group,with delta connection on HV side & star connection on LV side with additional neutral brought out on load side,For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 11/0.433 kV with Tapping(with off circuit Tap Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 2.20 KW, Full Load Loss at Rated Current 9.25 KW , with 98.87 % Efficiency at Full Load & 99.11 % at 1/2 Full Load, with 75 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclouser having IP 21 Degree of	Each	1452331	18982	1471313

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS-TR.with necessary permission of Electrical Inspector				
10-1-50 (New)	Supplying and Erecting approved make 315 kVA,3 phase, 50 c/s, Referrance Standard IS 11171 & IEC 60076-11, Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer, Copper wound , Dyn11 Vector Group,with delta connection on HV side & star connection on LV side with additional neutral brought out on load side,For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 22/0.433 kV with Tapping(with off circuit Bolted Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 1.80 KW, Full Load Loss at Rated Current 3.00 KW, with 98.50 % Efficiency at Full Load & 98.41 % at 1/2 Full Load, with 125 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclouser having IP 23 Degree of protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Lifting Lugs, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1514132	18982	1533114

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-51 (New)	Supplying and Erecting approved make 400 kVA,3 phase, 50 c/s, Referrance Standard IS 11171 & IEC 60076-11, Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer, Copper wound , Dyn11 Vector Group,with delta connection on HV side & star connection on LV side with additional neutral brought out on load side,For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 22/0.433 kV with Tapping(with off circuit Bolted Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 2.00 KW, Full Load Loss at Rated Current 3.60 KW, with 98.62 % Efficiency at Full Load & 98.57 % at 1/2 Full Load, with 125 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclouser having IP 23 Degree of protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Lifting Lugs, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1545033	19377	1564410
10-1-52 (New)	Supplying and Erecting approved make 500 kVA,3 phase, 50 c/s, Referrance Standard IS 11171 & IEC 60076-11, Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer, Copper wound , Dyn11 Vector Group,with delta connection on HV side & star connection on LV side with additional neutral brought out on load side,For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 22/0.433 kV with Tapping(with off circuit Bolted Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 2.20 KW, Full Load Loss at Rated Current 4.50 KW, with 98.68 % Efficiency at Full Load & 98.69 % at 1/2 Full Load, with 125 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclouser having IP 23 Degree of	Each	1588294	19772	1608066

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-53 (New)	<p>protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Lifting Lugs, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS- TR.with necessary permission of Electrical Inspector</p> <p>Supplying and Erecting approved make 630 kVA,3 phase, 50 c/s, Referrance Standard IS 11171 & IEC 60076-11, Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer, Copper wound , Dyn11 Vector Group,with delta connection on HV side & star connection on LV side with additional neutral brought out on load side,For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 22/0.433 kV with Tapping(with off circuit Bolted Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 2.50 KW, Full Load Loss at Rated Current 5.50 KW, with 98.75 % Efficiency at Full Load & 98.78 % at 1/2 Full Load, with 125 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclouser having IP 23 Degree of protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Lifting Lugs, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS- TR.with necessary permission of Electrical Inspector</p>	Each	1637735	20563	1658298

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-54 (New)	Supplying and Erecting approved make 750 kVA,3 phase, 50 c/s, Referrance Standard IS 11171 & IEC 60076-11, Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer, Copper wound , Dyn11 Vector Group,with delta connection on HV side & star connection on LV side with additional neutral brought out on load side,For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 22/0.433 kV with Tapping(with off circuit Bolted Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 2.60 KW, Full Load Loss at Rated Current 7.00 KW, with 98.74 % Efficiency at Full Load & 98.85 % at 1/2 Full Load, with 125 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclouser having IP 23 Degree of protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Lifting Lugs, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS- TR.with necessary permission of Electrical Inspector	Each	1693356	20760	1714116
10-1-55 (New)	Supplying and Erecting approved make 1000 kVA,3 phase, 50 c/s, Referrance Standard IS 11171 & IEC 60076-11, Vaccum Cast Coil (VCC) Dry Type Cast Resin Transformer, Copper wound , Dyn11 Vector Group,with delta connection on HV side & star connection on LV side with additional neutral brought out on load side,For Indoor Use Continuous Duty, Average Temp rise of Winding (at Principal Tap) 115 Deg C at Ambient Temp Max 50 Deg C & Min - 5 Deg C at full load rating, Voltage rating 22/0.433 kV with Tapping(with off circuit Bolted Links type tap changer) Tappings on Transformer For Off Load +5 to - 5% @ 2.5% in +2/-2 Steps, HV Variation, Class of Insulation H/H, Method of cooling AN, No Load Loss at Rated Voltage & Frequency (+15% IS Tol) 3.20 KW, Full Load Loss at Rated Current 9.30 KW, with 98.77 % Efficiency at Full Load & 98.91 % at 1/2 Full Load, with 125 KV peak Full Wave Lightning Impulse withstand Voltage with Complete Enclouser having IP 23 Degree of	Each	1841679	22737	1864416

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	protection, Cable Box arrangement at HV side & Busduct at LV side ,with rating & Diagram Plate, Base Channel, Lifting Lugs, Earthing Terminals & WTI Scanner with 3 PT-100 Sensors,etc. standard accessories complete with Test Certificate (as per IS:11171) as per specification No SS- TR.with necessary permission of Electrical Inspector				
10-1-56 (New)	Supplying and Erecting approved make Compact Substation with 100 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure , with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x95 sq.mm Al. unarmoured XLPE Cable.Copper wound transformer 100KVA 11KV/433V DYN11 Oil filled, INDOOR TYPE TRANSFORMER BUSHINGS,hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-200 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 200Amps 433V 4P 50Hz 35KA ICOG Fixed Manual Type Moulded case Circuit Breaker (MCCB) with Microprocessor based release for Overload , short circuit & earth Fault protection., Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment , Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x95Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using	Each	2031505	22341	2053846

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-57 (New)	<p>50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p> <p>Supplying and Erecting approved make Compact Substation with 200 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extensible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable module and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x120 sq.mm Al. unarmoured XLPE Cable. Copper wound transformer 200KVA 11KV/433V DYn11 Oil filled, INDOOR TYPE TRANSFORMER BUSHINGS,hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impedance As per IS 1180 with LV PANEL-315 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 315 Amps 433V 4P 50Hz 35KA ICOG Fixed Manual Type Moulded case Circuit Breaker (MCCB) with Microprocessor based release for Overload , short circuit & earth Fault protection., Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Coated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x120 Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	2245347	24318	2269665

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-58 (New)	<p>Supplying and Erecting approved make Compact Substation with 315 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x150 sq.mm Al. unarmored XLPE Cable.Copper wound transformer 315 KVA 11KV/433V DYn11 Oil filled, INDOOR TYPE TRANSFORMER BUSHINGS,hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-500 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 500 Amps 433V 4P 50Hz 35KA ICOG Fixed Manual Type Moulded case Circuit Breaker (MCCB) with Microprocessor based release for Overload , short circuit & earth Fault protection., Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x150 Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	2385682	28270	2413952

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-59 (New)	<p>Supplying and Erecting approved make Compact Substation with 400 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x150 sq.mm Al. unarmorured XLPE Cable.Copper wound transformer 400KVA 11KV/433V DYn11 Oil filled, INDOOR TYPE TRANSFORMER BUSHINGS,hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-630 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 630Amps 433V 4P 50Hz 35KA ICOG, Fixed Manual Type Air Circuit Breaker (ACB) with Microprocessor based release for Overload , short circuit & earth Fault protection., Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x150 Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	2512651	30247	2542898

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-60 (New)	<p>Supplying and Erecting approved make Compact Substation with 500 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x150 sq.mm Al. unarmorured XLPE Cable.Copper wound transformer 500KVA 11KV/433V DYN11 Oil filled, INDOOR TYPE TRANSFORMER BUSHINGS,hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-800 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 800Amps 433V 4P 50Hz 35KA ICOG, Fixed Manual Type Air Circuit Breaker (ACB) with Microprocessor based release for Overload , short circuit & earth Fault protection., Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x150 Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	2652985	32223	2685208

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-61 (New)	<p>Supplying and Erecting approved make Compact Substation with 630 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x185 sq.mm Al. unarmorured XLPE Cable.Copper wound transformer 630KVA 11KV/433V DYn11 Oil filled, INDOOR TYPE TRANSFORMER BUSHINGS,hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-1000 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 1000Amps 433V 4P 50Hz 50KA ICOG Fixed Manual Type Air Circuit Breaker (ACB) with Microprocessor based release for Overload , short circuit & earth Fault protection, Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x185Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	2913606	34199	2947805

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-62 (New)	<p>Supplying and Erecting approved make Compact Substation with 1000 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x200 sq.mm Al. unarmored XLPE Cable.Copper wound transformer 1000KVA 11KV/433V DYn11 Oil filled, INDOOR TYPE TRANSFORMER BUSHINGS,hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-1600 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 1600Amps 433V 4P 50Hz 50KA ICOG Fixed Manual Type Air Circuit Breaker (ACB) with Microprocessor based release for Overload , short circuit & earth Fault protection, Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x200 Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	3221004	38152	3259156

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-63 (New)	<p>Supplying and Erecting approved make Compact Substation with 200 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x120 sq.mm Al. unarmored XLPE Cable.Copper wound transformer 200KVA 22 KV/433V DYN11 Oil filled, hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-315 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 315 Amps 433V 4P 50Hz 35KA ICOG Fixed Manual Type Moulded case Circuit Breaker (MCCB) with Microprocessor based release for Overload , short circuit & earth Fault protection., Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x120Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	2459190	24318	2483508

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-64 (New)	<p>Supplying and Erecting approved make Compact Substation with 315 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x150 sq.mm Al. unarmored XLPE Cable.Copper wound transformer 315 KVA 22 KV/433V DYN11 Oil filled, hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-500 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 500 Amps 433V 4P 50Hz 35KA ICOG Fixed Manual Type Moulded case Circuit Breaker (MCCB) with Microprocessor based release for Overload , short circuit & earth Fault protection., Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x150Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	2639620	28270	2667890

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-65 (New)	<p>Supplying and Erecting approved make Compact Substation with 400 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x150 sq.mm Al. unarmorured XLPE Cable.Copper wound transformer 400KVA 22 KV/433V DYn11 Oil filled, hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-630 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 630Amps 433V 4P 50Hz 35KA ICOG, Fixed Manual Type Air Circuit Breaker (ACB) with Microprocessor based release for Overload , short circuit & earth Fault protection., Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x150Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	2779954	30247	2810201

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-66 (New)	<p>Supplying and Erecting approved make Compact Substation with 500 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x150 sq.mm Al. unarmored XLPE Cable.Copper wound transformer 500KVA 22 KV/433V DYN11 Oil filled, INDOOR TYPE TRANSFORMER BUSHINGS, hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-800 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 800Amps 433V 4P 50Hz 35KA ICOG, Fixed Manual Type Air Circuit Breaker (ACB) with Microprocessor based release for Overload , short circuit & earth Fault protection., Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x150Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	2920288	32223	2952511

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-67 (New)	<p>Supplying and Erecting approved make Compact Substation with 630 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x185 sq.mm Al. unarmored XLPE Cable.Copper wound transformer 630KVA 22 KV/433V DYn11 Oil filled, INDOOR TYPE TRANSFORMER BUSHINGS, hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-1000 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 1000Amps 433V 4P 50Hz 50KA ICOG Fixed Manual Type Air Circuit Breaker (ACB) with Microprocessor based release for Overload , short circuit & earth Fault protection, Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x185Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	3200957	34199	3235156

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-1-68 (New)	<p>Supplying and Erecting approved make Compact Substation with 1000 kVA,3 phase, 50 c/s ONAN Type UNIPACK 21KA for 3 Sec. SF6 insulated Non-Extinsible Compact switchgear (Type DV-NE) consisting of one No. Direct Cable madule and One No. Fixed Manual Vacuum Circuit Breaker in SF6 insulated stainless steel enclosure, with series trip, self powered microprocessor based numerical over current relay (IDMTL + Inst.) protection. Interconnection between HT switchgear and transformer shall be using 1Cx3x200 sq.mm Al. unarmored XLPE Cable.Copper wound transformer 1000KVA 22KV/433V DYn11 Oil filled, INDOOR TYPE TRANSFORMER BUSHINGS, hermatically sealed transformer with corrugated wall,without conservator type of design & Top Normal Porcelain Bushings for HT & LT with Off load tap switch of rating +5% to -10% @2.5%. Temp Rise - Oil/Winding 40/45 Deg cel. Losses (Subject to IS 1180 Energy Efficiency level 2) - Max @ 50% Loading : As per IS 1180 and Max @ 100% Loading : As per IS 1180 and Impednace As per IS 1180 with LV PANEL-1600 AMPS ALUMINUM BUSBAR (100% for Phase and 50% for Neutral, Current Density - 1amp/sqmm) with Outgoings 1600Amps 433V 4P 50Hz 50KA ICOG Fixed Manual Type Air Circuit Breaker (ACB) with Microprocessor based release for Overload , short circuit & earth Fault protection, Multifunctional Meter with Class 1.0Accuracy with RS 485 Port, RYB, ON/OFF Trip Indications, OUTDOOR ENCLOSURE having IP54 IP54 degree of protection for HT & LT switchgear compartment & IP23 degree of protection for Transformer compartment, Powder /Colour Caoated Enclouser, with Interconnection Between HT switchgear & Transformer using 1Cx3x200 Sq.mm XLPE AL Single core cable. Interconnection between Transformer & LT switchgear using Al. Busbars. Internal earthing connections by using 50x6 mm GI Strips including Transformer Neutral, Complete as per specification No SS-TR/COMP with necessary permission of Electrical Inspector</p>	Each	3541768	38152	3579920

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10.2 Accessories					
10-2-1	Supplying and erecting approved make 11 kV out door type gang operated air break, triple pole switch 200A, capacity with 3 post pin type insulator per phase, mounted in horizontal or vertical position with necessary channels on provided cross arm with adequate length of "C" class G.I. pipe for operating handle erected on extended square shaft. The operating handle provided with lock and key at suitable height from ground level with necessary clamp.	Set	18035	982	19017
10-2-2	Supplying and erecting approved make 11 kV out door type gang operated air break, triple pole switch 400A, capacity with 3 post pin type insulator per phase, mounted in horizontal or vertical position with necessary channels on provided cross arm with adequate length of "C" class G.I. pipe for operating handle erected on extended square shaft. The operating handle provided with lock and key at suitable height from ground level with necessary clamp.	Set	19526	982	20508
10-2-3	Supplying and erecting approved make 22 kV out door type gang operated air break, triple pole switch 200A, capacity with 3 post pin type insulator per phase, mounted in horizontal or vertical position with necessary channels on provided cross arm with adequate length of "C" class G.I. pipe for operating handle erected on extended square shaft. The operating handle provided with lock and key at suitable height from ground level with necessary clamp.	Set	27339	982	28321
10-2-4	Supplying and erecting approved make 33 kV out door type gang operated air break, triple pole switch 200A, capacity with 3 post pin type insulator double stack per phase, mounted in horizontal position with necessary channels on provided cross arm with adequate length of "C" class G.I. pipe for operating handle erected on extended square shaft. The operating handle provided with lock and key at suitable height from ground level with necessary clamp.	Set	42396	1411	43807
10-2-5	Supplying and erecting approved make, 11 kV out door type drop out fuse with insulator complete with fuse holders, fuse barrel with metal fitting, fuse element mounted on M.S. channel with working current of 15 Amps capacity complete erected on provided cross arm.	Set	10069	982	11051

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-2-6	Supplying and erecting approved make, 22 kV out door type drop out fuse with insulator complete with fuse holders, fuse barrel with metal fitting, fuse element mounted on M.S. channel with working current of 15 Amps capacity complete erected on provided cross arm.	Set	17461	982	18443
10-2-7	Supplying and erecting approved make, 33 kV out door type drop out fuse with insulator complete with fuse holders, fuse barrel with metal fitting, fuse element mounted on M.S. channel with working current of 15 Amps capacity complete erected on provided cross arm.	Set	23452	982	24434
10-2-8	Supplying and erecting 11 kV fuse barrel with metal fittings.	Each	351	37	388
10-2-9	Supplying and erecting 22 kV fuse barrel with metal fittings.	Each	573	37	610
10-2-10	Supplying and erecting hard drawn copper solid wire No.0 to 6 SWG complete erected for connections on H.T. sides.	kg	828	148	976
10-2-11	Supplying and erecting extra thick alkathene pipe 10mm. dia erected to enclose bare conductor wires. (use shall be restricted to H.T.)	m	36	12	48
10-2-12	Supplying operating rod, suitable for 11/22kV supply with clamps for removing drop out fuses at 6 meters length, 4 pieces each with rain shade with hand grip including earthing chain 1.5 m (Light duty)	Each	3824	0	3824
10-2-13	Supplying Heavy duty operating rod, Outer Dia 25 mm & inner dia 20 mm suitable for 11 kV with brass couplings etc for removing drop out fuses at 6 meters length, 4 pieces each with rain shade with hand grip including earthing chain 1.5 m	Each	4079	0	4079
10-2-14	Supplying Heavy duty operating rod, Outer Dia 25 mm & inner dia 20 mm suitable for 22/33 kV with brass couplings etc for removing drop out fuses at 6 m length, 4 pieces each with rain shade with hand grip including earthing chain 1.5 m	Each	4971	0	4971
10-2-15	Supplying and erecting copper tubular bus 20mm. dia 1.6 mm (16 SWG) thick for the use of high tension over head bus and erected on provided HT insulators with clamps, nuts and bolts complete. (weight per meter of bus is about 1.7 kg.)	m	1657	37	1694
10-2-16	Supplying and erecting clamps, made out of 25x3mm, copper strips to be fixed to tubular bus for connecting the bare copper wire to other equipment, with brass nuts bolts of suitable dia.	Each	183	37	220

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-2-17	Supplying and erecting anticleimbing devices, fabricated from pole clamps of MS Flat 40x5 mm, with drooping spikes 15 cm. in length, welded to it and erected on pole.	Each	134	37	171
10-2-18	Supplying and erecting fencing of section having size 2450 mm in height from ground level and 1200 mm width with angle iron frame work erected in C C foundation and painted as per specification No SS-AS/FSG	Each	5596	295	5891
	Note:- For Section less than 1200 mm width, reduce rate by Rs 200/- per 100 mm or part thereof for reduction in width of 1200 mm.				
10-2-19	Supplying and erecting 50 x 50 x 6 mm. angle iron as corner support 2m long fixed at the middle of the fencing frame and the other side inclined at 30 degree angle, in C.C. foundation of 15 x 15 x 40cm complete duly painted with one coat of red oxide and two coats aluminum paint.	Each	1056	148	1204
10-2-20	Supplying and erecting double leaf hinged door each 1500mm in width x 1850 mm in height using B class ,GI pipe with angle iron supports, chain link wiremesh (jali) complete supported on channel iron, erected in foundation, and painted as per specification no SS-AS/DLD	Each	17336	564	17900
10-2-21	Supplying & erecting barbed wire two ply with 12 SWG ply and 12 SWG barb with a gap between two bars of 75 mm. firmly fixed on provided angle supports with necessary materials. (6.044 meters/kg.).	kg	106	12	118
10-2-22	Providing printed instruction chart for treating persons suffering from electric shock, printed in English & Marathi and duly laminated .	Each	114	12	126
10-2-23	Provided pair of duly tested rubber hand gloves as per IS :340715 suitable for working on 22kV supply.	Each	622	0	622
10-2-24	Providing Round bottom FIRE Bucket of 9 Litres capacity as per IS : 2546 made out of 24 gauge G.I. sheet with extra handle at bottom duly painted white inside and red outside with FIRE Mark, on provided stand/ wall hook.	Each	701	74	775
10-2-25	Providing Floor mounting stand for keeping 4 Nos. of FIRE buckets 1500mm in length, 900mm in height frame made out of 30x30x4 mm angle iron with cross supports for legs, welded with 4 hooks and duly painted with one coat of red lead and two coats of silver paint.	Each	3187	111	3298
10-2-26	Supplying and erecting Wall hook 225mm projection for keeping fire buckets made out of 15 mm dia. M.S. Rod grouted in wall to a depth of minimum 15cms.	Each	64	12	76

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-2-27	Supplying standard first aid box with necessary antiseptic cream, medicine for use on wounds due burn, crepe bandage, gauge bandage, medicated ready to use bandage (Band-aid) adhesive tape for medicinal use, scissors, anti-septic solution (Savlon or similar) etc. (All above contents shall be of standard makes)	Each	765	0	765
10-2-28	Deleted				
10-2-29	Deleted				
10-2-30	Supplying and fixing PVC Synthetic elastomer electrically insulating mat with class A insulation conforming to IS: 15652 – 2006 & CPRI tested having 2 mm thickness upto 3.3 kV	m ²	4424	443	4867
10-2-31	Supplying and fixing PVC Synthetic elastomer electrically insulating mat with class B insulation conforming to IS: 15652 – 2006 & CPRI tested having 2.5 mm thickness upto 11 kV	m ²	4793	443	5236
10-2-32	Supplying and fixing PVC Synthetic elastomer electrically insulating mat with class C insulation conforming to IS: 15652 – 2006 & CPRI tested having 3mm thickness upto 33 kV	m ²	6636	443	7079
10-2-33	Supplying shock proof leather Safety Shoes of Electrical grade of standard size as IS :11226, 14544 duly tested, with necessary test certificate from manufacturer.	per Pair	1850	0	1850
10-2-34	Supplying and erecting D.C.P. type Fire Extinguisher 6 kg capacity cartridge type with Gun Metal cap 150 gram CO2 gas cartridge, powder and brackets conforming to IS 2171-1985/ IS 15683 and complete erected with necessary clamps made from 50x6 mm M.S. flat with nuts & bolts grouted in wall complete.	Each	3289	74	3363
10-2-35	Supplying and erecting D.C.P. type Fire Extinguisher 9 kg capacity cartridge type with Gun Metal cap 150 gram CO2 gas cartridge, powder and brackets conforming to IS 2171-1985 and complete erected with necessary clamps made from 50x6 mm M.S. flat with nuts & bolts grouted in wall complete.	Each	4598	74	4672
10-2-36	Supplying & erecting Carbon Dioxide (CO2) fire extinguisher of 4.5 kg. Capacity Cartridge type conf. To IS 2878 /15683 Complete erected with necessary clamp made front 50x6 mm. M. S. flat with nut & bolts grouted in wall complete.	Each	12850	74	12924
10-2-37	Deleted				
10-2-38	Supplying and erecting ABC powder type 'Ceasefire' type fire extinguisher as per IS : 13849/15683 of 1 kg capacity with necessary clamp for erection on wall.	Each	2442	74	2516

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
10-2-39	Supplying and erecting ABC powder type fire extinguisher as per IS : 13849 /15683 of 6 kg capacity with necessary clamp for erection on wall.	Each	4401	74	4475
10-2-40	Supplying SMC Chequered plates , hot press moulded from advanced composites of plastics namely sheet moulding compound of thicknes 2.5 mm with insulation level upto 22 kV and fixing it to substation floor with SR-998 adhesive alongwith 5 mm thick E.P. foam as per specification.	Each	4939	148	5087
10-2-41	Supplying SMC Chequered plates , hot press moulded from advanced composites of plastics namely sheet moulding compound of thicknes 5 mm with insulation level suitable for 33 kV and fixing it to substation floor with SR-998 adhesive alongwith 5 mm thick E.P. foam as per specification.	Each	9639	148	9787
<u>10.3 Dismantling</u>					
10-3-1	Dismantling the existing Distribution Transformer of any capacity from the plinth / foundation safely without any damages and storing in safe place.	kVA	0	30	30
10-3-2	Dismantling existing pole mounted Distribution Transformer safely without any damages and storing it in safe place.	kVA	0	42	42
10-3-3	Dismantling existing DO / AB switch set complete from D.P. structure in an approved manner.	set	0	343	343
Note:-	The rate for item no 10.3.3 are for dismantling and handing over to section office inclusive of transportation upto 25 km, between site and section office.				
10-3-4 (New)	Transportation of 11/22 KV Transformer upto 315 KVA without Loading & Unloading (for handing over to section store/Repair Works Only)	Each	26	0	26
10-3-5 (New)	Transportation of 11/22 KV Transformer above 315 KVA to 1000 KVA without Loading & Unloading (for handing over to section store/Repair Works Only)	Each	40	0	40

Chapter 11

Generators (GEN)

11.1 Generators

(GEN-GEN)

11.2 Auto Mains Failure Panels (AMF Panels)

(GEN-AMF)

11.3 Servicing of DG

(GEN-SER)

11.4 Dismantling

Chapter 11 : Generators (GEN)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11.1 Generators (GEN-GEN)					
11-1-1	Supplying portable generator set with petrol start and kerosene run engine suitable to give 1400 VA output at 220 +/-13 V A.C. with rated current of 6.4 A complete with standard accessories as per specification No. GEN-PG	Each	54558	0	54558
11-1-2	Supplying portable generator set with petrol start and kerosene run engine suitable to give 2000 VA output at 220 +/-13 V A.C. with rated current of 6.4 A complete with standard accessories as per specification No. GEN-PG	Each	64213	0	64213
11-1-3	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 10 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising of meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification No. GEN-DG	Each	307615	11651	319266

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-1-4	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 15 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, along with standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	327121	11651	338772
11-1-5	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 20 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	372255	11651	383906

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-1-6	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 25 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	414276	11651	425927
11-1-7	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 30 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	435086	11651	446737

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-1-8	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 40 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	527116	11651	538767
11-1-9	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 50 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	606075	11651	617726

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-1-10	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 62.5 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	629420	11651	641071
11-1-11	Deleted				
11-1-12	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 82.5 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	734082	12191	746273

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-1-13	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 100 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	843799	12294	856093
11-1-14	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 125 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	888725	12294	901019

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-1-15	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 140 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	1188724	13936	1202660
11-1-16	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 160 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	1197470	13936	1211406

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-1-17	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 180 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	1375826	13936	1389762
11-1-18	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 200 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. as per specification no. GEN-DG	Each	1517892	13936	1531828

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-1-19	<p>Supplying, Erecting and Commissioning of Diesel generating set with alternator of 250 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel, etc and obtaining necessary approval from Electrical Inspector as per specification no. GEN-DG</p>	Each	1894085	16017	1910102
11-1-20	<p>Supplying, Erecting and Commissioning of Diesel generating set with standard control Panel with alternator of 5 kVA output continuous rating, single Phase, 230V, 50c/s 0.8 p. f. A.C a totally enclosed air / liquid cooled multy cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours with standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 % .Both the engine and alternator direct coupled on a common fabricated steel base plate with anti-vibrating pad with control panel comprising of standard meters,switchgears, indicators connected with suitable wires/cables.The complete set enclosed in Acoustic enclosure made of 18 SWG CRCA Sheet, sound absorbing material,Rockwool covered from inside with ¾ mm holes perforated sheet to restrict sound level upto 75 dB at 1.0 m. The engine with first filling of oil,diesel etc. as per specification no. GEN-DG</p>	Each	233832	8665	242497

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-1-21	Supplying, Erecting and Commissioning of Diesel generating set with standard control Panel with alternator of 10 kVA output continuous rating, single Phase, 230V , 50c/s 0.8 p. f. A.C a totally enclosed air / liquid cooled multy cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours with standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 % .Both the engine and alternator direct coupled on a common fabricated steel base plate with anti-vibrating pad with control panel comprising of standard meters,switchgears, indicators connected with suitable wires/cables.The complete set enclosed in Acoustic enclosure made of 18 SWG CRCA Sheet, sound absorbing material, Rockwool covered from inside with ¾ mm holes perforated sheet to restrict sound level upto 75 dB at 1.0 m. The engine with first filling of oil,diesel etc.as per specification no. GEN-DG	Each	360068	8665	368733
11-1-22 (NEW)	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 320 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. and obtaining necessary approval from Electrical Inspector as per specification no. GEN-DG	Each	2483811	16017	2499828

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-1-23 (NEW)	Supplying, Erecting and Commissioning of Diesel generating set with alternator of 500 kVA output continuous rating, 3 Phase, 415 V, 50c/s 0.8 p. f. A.C a totally enclosed air cooled / liquid cooled multi-cylinder diesel engine developing suitable BHP at 1500 rpm with 10% overload for 1 hour in 12 hours, alongwith standard accessories, self-excited, self-regulated, screen protected alternator with static excitation system running at 1500 RPM as per IS 4722-2001 with voltage regulation +/- 5 %. Both the engine and alternator direct coupled on a common fabricated steel base frame and mounted on anti-vibrating pads with standard control panel comprising of meters, switchgears, indicators connected with suitable wires/cables, the complete set enclosed in composite Acoustic enclosure as fully assembled integral unit made of 16 SWG CRCA Sheet, sound absorbing material to restrict sound level upto 75 dB at 1.0 m, provided with first filling of oil, diesel etc. and obtaining necessary approval from Electrical Inspector as per specification no. GEN-DG	Each	3405391	16017	3421408
Note:-	<p>1) DG Set rating for altitudes more than 150 m above mean sea level shall be de-rated at 3.5 % for every 300 m above 150 m mean sea level.</p> <p>2) In case of new DG set, if AMF/SYNC panel is to be used in lieu of standard panel, reduce rate by 10% of the cost of material of new AMF panel/SYNC panel.</p> <p>3) For all the Engines, the emission standards/norms shall meet applicable pollution control board norms as amended by Government.</p>				
<u>11.2 Auto Mains Failure Panels (AMF Panels) (GEN-AMF)</u>					
11-2-1	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 10 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	47534	1955	49489
11-2-2	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 15 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	61871	1955	63826

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-2-3	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 20 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	65894	1955	67849
11-2-4	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 25 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	67225	1955	69180
11-2-5	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 30/35 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	71356	1955	73311
11-2-6	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 40 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	81650	1955	83605
11-2-7	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 50 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	101245	1955	103200
11-2-8	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 62.5 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	104842	1955	106797
11-2-9	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 75/82.5 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	121220	1955	123175
11-2-10	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 100 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	132139	3762	135901

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-2-11	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 125 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	139537	3762	143299
11-2-12	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 140 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	159372	3762	163134
11-2-13	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 160/180 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	175899	4747	180646
11-2-14	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 200 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	191145	4747	195892
11-2-15	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 250 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	213781	4747	218528
11-2-16 (NEW)	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 320 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	352644	5731	358375
11-2-17 (NEW)	Supplying, erecting, testing and commissioning of Microprocessor based AMF panel suitable for Diesel Generating Set of upto 500 kVA capacity Single/Three phase, 230/415 Volts, 50Hz A.C. with all standard features, safeties etc as per specification no. GEN-AMF.	Each	425025	5731	430756
11-2-18 (NEW)	Supplying, erecting, testing and commissioning of Microprocessor based Generator Control Unit (Synchronization panel) panel suitable for Diesel Generating Set of 320 kVA capacity Three phase, 415 Volts, 50Hz A.C. with all standard features and safeties etc as per specification no. GEN-SYNC.	Each	629452	5731	635183

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-2-19 (NEW)	Supplying, erecting, testing and commissioning of Microprocessor based Generator Control Unit (Synchronization panel) panel suitable for Diesel Generating Set of 500 kVA capacity Three phase, 415 Volts, 50Hz A.C. with all standard features and safeties etc as per specification no. GEN-SYNC .	Each	774711	5731	780442

11.3 Servicing of DG Set

11-3-1 (NEW)	<p>Carrying out monthly Servicing of DG set upto 50 KVA with/without AMF Panel of any make to ensure smooth running of DG set for 30 mins on load.</p> <p>Checking for abnormal sound and leakages, Carry out visual inspection of all moving parts, oil levels, oil filters, fuel filters, air filters and clean them properly, rectify the minor leakages if any.</p> <p>Inspect alternator, stator and rotor for normal speed & proper frequency, Examine battery charging with monitoring system and recording voltages, checking battery cells gravity and topping up with Distilled water, Checking V belts with necessary adjustment, Checking and retightening of nut bolts including coupling bolts of engine and alternator, Checking & cleaning of radiator and leakage testing</p> <p>Checking of radiator & fuel supply hose pipes, Checking of AVR, excitation diodes, its connections confirming proper output voltage. Checking & resetting of valve tappets, Cleaning of DG set internally using blower, cleaning radiator,</p> <p>Attending breakdowns as and when required during One month period or during VIP visit within 2 hours of intimation and Submit the servicing report to engineer in charge.(Non Comprehensive) as per specification No. GEN-SER-AMC</p>	Job	0	2373	2373
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Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-3-2 (NEW)	Carrying out monthly Servicing of DG set from 62.5 KVA to 200 KVA with/without AMF Panel of any make to ensure smooth running of DG set for 30 minsChecking for abnormal sound and leakages, Carry out visual inspection of all moving parts, oil levels, oil filters, fuel filters, air filters and clean them properly, rectify the minor leakages if any. Inspect alternator, stator and rotor for normal speed & proper frequency, Examine battery charging with monitoring system and recording voltages, checking battery cells gravity and topping up with Distilled water, Checking V belts with necessary adjustment, Checking and retightening of nut bolts including coupling bolts of engine and alternator, Checking & cleaning of radiator and leakage testingChecking of radiator & fuel supply hose pipes, Checking of AVR, excitation diodes, its connections confirming proper output voltage. Checking & resetting of valve tappets, Cleaning of DG set internally using blower, cleaning radiator, Attending breakdowns as and when required during One month period or during VIP visit within 2 hours of intimation and Submit the servicing report to engineer in charge.(Non Comprehensive) as per specification No. GEN-SER-AMC	Job	0	3032	3032

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-3-3 (NEW)	Carrying out monthly Servicing of DG set from 250 KVA to 500 KVA with/without AMF Panel of any make to ensure smooth running of DG set for 30 mins. Checking for abnormal sound and leakages, Carry out visual inspection of all moving parts, oil levels, oil filters, fuel filters, air filters and clean them properly, rectify the minor leakages if any. Inspect alternator, stator and rotor for normal speed & proper frequency, Examine battery charging with monitoring system and recording voltages, checking battery cells gravity and topping up with Distilled water, Checking V belts with necessary adjustment, Checking and retightening of nut bolts including coupling bolts of engine and alternator, Checking & cleaning of radiator and leakage testing Checking of radiator & fuel supply hose pipes, Checking of AVR, excitation diodes, its connections confirming proper output voltage. Checking & resetting of valve tappets, Cleaning of DG set internally using blower, cleaning radiator, Attending breakdowns as and when required during One month period or during VIP visit within 2 hours of intimation and Submit the servicing report to engineer in charge.(Non Comprehensive) as per specification No. GEN-SER-AMC	Job	0	4349	4349
11-3-4 (NEW)	Topping up new lubricating oil 15W/40 grade of approved make as per IS 13656 : 2014	litre	464	49	513
11-3-5 (NEW)	Topping up new glycol based coolant 50/50 with operating range from 118°C to -37°C of approved make	litre	389	49	438
11-3-6 (NEW)	Supplying and erecting V-Belt of all types and lengths, adjust tension as per requirements from generator manufacturer suitable for DG set upto 100KVA	Each	2867	775	3642
11-3-7 (NEW)	Supplying and erecting V-Belt of all types and lengths, adjust tension as per requirements from generator manufacturer suitable for DG set from 125 KVA to 250 KVA	Each	8315	775	9090
11-3-8 (NEW)	Supplying and erecting V-Belt of all types and lengths, adjust tension as per requirements from generator manufacturer suitable for DG set from 320 KVA to 500 KVA	Each	23668	1104	24772
11-3-9 (NEW)	Supplying and erecting Lub Oil filter element along with sealing rings, gasket etc complete suitable for DG Set upto 62.5 KVA.	Each	640	775	1415

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-3-10 (NEW)	Supplying and erecting Lub Oil filter element along with sealing rings, gasket etc complete suitable for DG Set from 82.5 KVA to 250 KVA.	Each	5370	775	6145
11-3-11 (NEW)	Supplying and erecting Lub Oil filter element along with sealing rings, gasket etc complete suitable for DG Set from 320 KVA to 500 KVA.	Each	8122	1104	9226
11-3-12 (NEW)	Supplying and erecting Fuel filter along with sealing rings, gasket, primary filter and water separator etc complete suitable for DG Set upto 50 KVA.	Each	529	775	1304
11-3-13 (NEW)	Supplying and erecting Fuel filter along with sealing rings, gasket, primary filter and water separator etc complete suitable for DG Set from 62.5 KVA to 125 KVA.	Each	773	775	1548
11-3-14 (NEW)	Supplying and erecting Fuel filter along with sealing rings, gasket, primary filter and water separator etc complete suitable for DG Set from 140 KVA to 200 KVA.	Each	4808	1104	5912
11-3-15 (NEW)	Supplying and erecting Fuel filter along with sealing rings, gasket, primary filter and water separator etc complete suitable for DG Set from 250 KVA to 500 KVA.	Each	7780	1433	9213
11-3-16 (NEW)	Supplying and erecting Stop Solenoid assembly 12V/24V single coil energized to run with or without primary etc complete suitable for DG set upto 125 KVA.	Each	7379	1567	8946
11-3-17 (NEW)	Supplying and erecting Stop Solenoid assembly 12V/24V single coil energized to run with or without primary etc complete suitable for DG set from 140 KVA to 200 KVA.	Each	17502	1567	19069
11-3-18 (NEW)	Supplying and erecting Stop Solenoid assembly 12V/24V single coil energized to run with or without primary etc complete suitable for DG set from 250 KVA to 500 KVA.	Each	32264	2225	34489
11-3-19 (NEW)	Supplying and erecting Air Cleaner/Air Filter Element suitable for DG set upto 40 KVA	Each	2468	908	3376
11-3-20 (NEW)	Supplying and erecting Air Cleaner/Air Filter Element suitable for DG set from 50 KVA to 125 KVA	Each	5049	1237	6286
11-3-21 (NEW)	Supplying and erecting Air Cleaner/Air Filter Element suitable for DG set from 140 KVA to 200 KVA	Each	10711	1567	12278
11-3-22 (NEW)	Supplying and erecting Air Cleaner/Air Filter Element suitable for DG set from 250 KVA to 500 KVA	Each	33422	2225	35647

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-3-23 (NEW)	Supplying, erecting and testing permanent magnet generator (PMG) excited Automatic Voltage Regulator (AVR) with sensing input voltage range: 190 V AC - 264 V AC 2/3 Phase, frequency range 50-60 Hz and output voltage max 120 V DC continuous current 3.7 A, transient current 6 A for 10 second with minimum resistance of 15 ohm, AVR response time of 10 ms etc. complete suitable for DG set as per Specification GEN-SER-AVR	Each	65823	4503	70326
11-3-24 (NEW)	Supplying, erecting and testing permanent magnet generator (PMG) excited Automatic Voltage Regulator (AVR) with sensing input voltage range: 190 V AC - 264 V AC 1 Phase 2 wire, frequency range 50-60 Hz and output voltage max 120 V DC continuous current 2.7 A, transient current 6 A for 10 second with minimum resistance of 15 ohm, AVR response time of 10 ms etc. complete suitable for DG set as per Specification GEN-SER-AVR	Each	59240	4503	63743
11-3-25 (NEW)	Supplying, erecting and testing main stator powered excited Automatic Voltage Regulator (AVR) with sensing input voltage range: 95 V - 132 V /190 V AC - 264 V AC 1 Phase 2 wire, frequency range 50-60 Hz and output voltage max 90 V DC continuous current 4 A, transient current 6 A for 10 second with minimum resistance of 15 ohm, AVR response time of 20 ms etc. complete suitable for DG set as per Specification GEN-SER-AVR	Each	17937	4503	22440
11-3-26 (NEW)	Supplying, erecting and testing main stator powered excited Automatic Voltage Regulator (AVR) with sensing input voltage range: 190 V AC - 264 V AC, frequency range 50-60 Hz and output voltage max 90 V DC continuous current 10 A, transient current 16 A for 10 second with minimum resistance of 10 ohm, AVR response time of 20 ms etc. complete suitable for DG set as per Specification GEN-SER-AVR	Each	26481	4503	30984
11-3-27 (NEW)	Supplying, erecting and testing main stator powered excited Automatic Voltage Regulator (AVR) with sensing input voltage range: 170 V AC - 280 V AC 1 phase/ 270 V - 520 V AC 3 phase, frequency range 50-60 Hz and output voltage max 63 V DC continuous current 6 A, transient current 7 A for 10 second with minimum resistance of 10 ohm, AVR response time of 20 ms etc. complete suitable for DG set as per Specification no GEN-SER-AVR	Each	20448	4503	24951
11-3-28 (NEW)	Supplying and erecting set of Engine Safety Unit suitable for DG set upto 125 KVA as per specification no	Each	10934	4503	15437

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-3-29 (NEW)	Supplying and erecting set of Engine Safety Unit suitable for DG set from 140 KVA to 250 KVA	Each	16096	4503	20599
11-3-30 (NEW)	Supplying and erecting set of Engine Safety Unit suitable for DG set from 320 KVA to 500 KVA	Each	21035	5821	26856
11-3-31 (NEW)	Supplying and erecting SMPS based Battery Charger input voltage 230 V A.C. & output voltage 24 V DC, charging current 10A suitable to charge DG set Battery	Each	11271	378	11649
11-3-32 (NEW)	Supplying and erecting SMPS based Battery Charger input voltage 230 V A.C. & output voltage 24 V DC, charging current 20A suitable to charge DG set Battery	Each	19483	378	19861
11-3-33 (NEW)	Supplying and erecting SMPS Battery Charger input voltage 230 V A.C. & output voltage 12 V DC, charging current 10A suitable to charge DG set Battery	Each	2761	378	3139
11-3-34 (NEW)	Supplying, erecting, testing and commissioning 4 pole power contactor 32A with coil voltage of 220/240 V suitable to operate on AV voltage for DG set.	Each	2060	184	2244
11-3-35 (NEW)	Supplying, erecting, testing and commissioning 4 pole power contactor 63 A with coil voltage of 220/240 V suitable to operate on AV voltage for DG set.	Each	4947	184	5131
11-3-36 (NEW)	Supplying, erecting, testing and commissioning 4 pole power contactor 80-130A with coil voltage of 220/240 V suitable to operate on AV voltage for DG set.	Each	9021	184	9205
11-3-37 (NEW)	Supplying, erecting, testing and commissioning 4 pole power contactor 200A with coil voltage of 220/240 V suitable to operate on AV voltage for DG set.	Each	20529	184	20713
11-3-38 (NEW)	Supplying, erecting, testing and commissioning 4 pole power contactor 325A with coil voltage of 220/240 V suitable to operate on AV voltage for DG set.	Each	41643	184	41827
11-3-39 (NEW)	Supplying, erecting, testing and commissioning 4 pole power contactor 400A with coil voltage of 220/240 V suitable to operate on AV voltage for DG set.	Each	53382	184	53566
11-3-40 (NEW)	Supplying, erecting, testing and commissioning 4 pole power contactor 600A with coil voltage of 220/240 V suitable to operate on AV voltage for DG set.	Each	80579	184	80763
11-3-41 (NEW)	Supplying, erecting, testing and commissioning 4 pole power contactor 800A with coil voltage of 220/240 V suitable to operate on AV voltage for DG set.	Each	121907	184	122091

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
11-3-42 (NEW)	Supplying, erecting, testing and comissioning microcontroller based Digital Line Voltage Monitor 3 phase 4 wire 2 CO output relay suitable to operate on AC voltage for DG set.	Each	2802	86	2888
11-3-43 (NEW)	Supplying & erecting 12 V 80 AH heavy duty plate type Battery with terminal wire duly charged complete suitable for DG set with warranty for 3 years	Each	9138	86	9224
11-3-44 (NEW)	Supplying & erecting 12 V 88 AH heavy duty plate type Battery with terminal wire duly charged complete suitable for DG set with warranty for 3 years	Each	9522	86	9608
11-3-45 (NEW)	Supplying & erecting 12 V 100 AH heavy duty plate type Battery with terminal wire duly charged complete suitable for DG set with warranty for 3 years	Each	11223	86	11309
11-3-46 (NEW)	Supplying & erecting 12 V 150 AH heavy duty plate type Battery with terminal wire duly charged complete suitable for DG set with warranty for 3 years	Each	18075	86	18161
11-3-47 (NEW)	Supplying & erecting 12 V 180 AH heavy duty plate type Battery with terminal wire duly charged complete suitable for DG set with warranty for 3 years	Each	21000	86	21086
11-3-48 (NEW)	Supplying & erecting 12 V 200 AH heavy duty plate type Battery with terminal wire duly charged complete suitable for DG set with warranty for 3 years	Each	27193	86	27279
11-3-49 (NEW)	Topping up Distilled water for Battery	litre	20	7	27

11.4 Dismantling

11-4-1	Dismantling unserviceable DG set upto 50 kVA capacity alongwith Switch gears & panel, etc. and remaking the site good as original.	Job	0	1571	1571
11-4-2	Dismantling unserviceable DG set above 50 kVA capacity alongwith Switch gears & panel, etc. and remaking the site good as original.	per KVA	0	29	29

1) Above rate for dismantling does not include cost of transportation

2)Rate per kVA for 11-4-2 to be considered for capacity above 50 kVA.

Chapter 12

Water Pumps (WP)

12.1 Centrifugal Pumps	(WP-CGP)
12.2 Ejecto Type Water Pumps	(WP-EJP)
12.3 Submersible Pumps for Borewells	(WP-SMP)
12.4 Submersible Pumps for Open wells	(WP-OSP)
12.5 Accessories	
12.6 Diwatering Pump	(WP-DWP-SMP)
12.7 Pressure Pump	(WP-PP)
12.8 Dismantling Material	

CHAPTER : 12 WATER PUMPS (WP)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>12.1 Centrifugal Pumps (WP-CGP)</u>					
12-1-1	Supplying & erecting Centrifugal water pump (Monoblock), 230V, Single phase 50 cycles A.C. supply of 0.5 HP of specified discharge head & size of suction, delivery pipes on provided C.C. foundation as per specification No. WP-CGP	Each	5903	597	6500
12-1-2	Supplying & erecting Centrifugal water pump (Monoblock), 230V, Single phase 50 cycles A.C. supply of 1 HP of specified discharge head & size of suction, delivery pipes on provided C.C. foundation as per specification No. WP-CGP	Each	8556	597	9153
12-1-3	Supplying & erecting Centrifugal water pump (Monoblock), 230V, Single phase 50 cycles A.C. supply of 1.5HP of specified discharge head & size of suction, delivery pipes on provided C.C. foundation as per specification No. WP-CGP	Each	10444	597	11041
12-1-4	Supplying & erecting Centrifugal water pump (Monoblock), 230V, Single phase 50 cycles A.C. supply of 2 HP of specified discharge head & size of suction, delivery pipes on provided C.C. foundation as per specification No. WP-CGP	Each	12858	597	13455
12-1-5	Supplying & erecting Centrifugal water pump (Monoblock), 415V, three phase 50 cycles A.C. supply of 2 HP with discharge 2.2/4.1 Liters per second (LPS) for head of 8/26 m and 50 mm suction/ 40 mm delivery pipe on provided C.C. foundation as per specification No. WP-CGP	Each	14126	597	14723
12-1-6	Supplying & erecting Centrifugal water pump (Monoblock), 415V, three phase 50 cycles A.C. supply of 3 HP with discharge 2/4.9 Liters per second (LPS) for head of 14/36 m and 50 mm suction/ 40 mm delivery pipe on provided C.C. foundation as per specification No. WP-CGP	Each	18547	1013	19560
12-1-7	Supplying & erecting Centrifugal water pump (Monoblock), 415V, three phase 50 cycles A.C. supply of 3 HP with discharge 4.9/9.2 Liters per second (LPS) for head of 10/26 m and 65 mm suction/ 50 mm delivery pipe on provided C.C. foundation as per specification No. WP-CGP	Each	19647	1013	20660
12-1-8	Supplying & erecting Centrifugal water pump (Monoblock), 415V, three phase 50 cycles A.C. supply of 3 HP with discharge 1.83/4.16 Liters per second (LPS) for head of 24/36 m and 50 mm suction/ 40 mm delivery pipe on provided C.C. foundation as per specification No. WP-CGP	Each	19743	1400	21143

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-1-9	Supplying & erecting Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 5 HP with discharge 2/4.1 Liters per second (LPS) for head of 36/52 m and 50 mm suction/ 40 mm delivery pipe on provided C.C. foundation as per specification No. WP-CGP	Each	26667	1400	28067
12-1-10	Supplying & erecting Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 5 HP with discharge 5.8/8.5 Liters per second (LPS) for head of 20/36 m and 65 mm suction/ 50 mm delivery pipe on provided C.C. foundation as per specification No. WP-CGP	Each	24849	1400	26249
12-1-11	Supplying & erecting Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 7.5 HP with discharge 4.5/8.6 Liters per second (LPS) for head of 32/52 m and 65 mm suction/ 50 mm delivery pipe of size or with discharge of 11.1/19.9 Liters per second (LPS) for head of 16/30 m and 80mm suction/ 65mm delivery pipe of size, on provided C.C. foundation as per specification No. WP-CGP	Each	31514	1553	33067
12-1-12	Supplying & erecting Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 10 HP with discharge 9.6/21.6 Liters per second (LPS) for head of 18/40 m and 80 mm suction/ 65 mm delivery pipe of size or with discharge of 4.3/7.8 Liters per second (LPS) for head of 40/64 m and 65mm suction/ 50mm delivery pipe of size, on provided C.C. foundation as per specification No. WP-CGP	Each	38078	2286	40364
12-1-13	Supplying & erecting Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 12.5 HP with discharge 7/19.6 Liters per second (LPS) for head of 20/48 m and 80 mm suction/ 65 mm delivery pipe of size or with discharge of 20/33.5 Liters per second (LPS) for head of 18/30 m and 100mm suction/ 100mm delivery pipe of size, on provided C.C. foundation as per specification No. WP-CGP	Each	47626	2286	49912
12-1-14	Supplying & erecting Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 15 HP with discharge 10.5/19.4 Liters per second (LPS) for head of 30/54 m and 80 mm suction/ 65 mm delivery pipe of size or with discharge of 17.5/36.8 Liters per second (LPS) for head of 18/36 m and 100mm suction/ 100mm delivery pipe of size, on provided C.C. foundation as per specification No. WP-CGP	Each	52054	2906	54960

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-1-15	Supplying & erecting Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 20 HP with discharge 14/33.8 Liters per second (LPS) for head of 18/52 m and 100mm suction/ 80mm delivery pipe of size, on provided C.C. foundation as per specification No. WP-CGP	Each	67822	2906	70728
12-1-16 (New)	Supplying & erecting Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 25 HP with discharge 13.3/258 Liters per second (LPS) for head of 48/60 m and 100mm suction/ 80mm delivery pipe of size, on provided C.C. foundation as per specification No. WP-CGP	Each	82521	3131	85652
12-1-17 (New)	Supplying & erecting Centrifugal water pump (Monoblock), 415 V, three phase 50 cycles A.C. supply of 30 HP with discharge 6.66/28.33 Liters per second (LPS) for head of 48/69 m and 100mm suction/ 80mm delivery pipe of size, on provided C.C. foundation as per specification No. WP-CGP	Each	95933	3131	99064
Note:-	Preferably energy efficient motors with p.f. above 0.9 shall be used.				
	<u>12.2 Ejecto Type Water Pumps (WP-EJP)</u>				
12-2-1	Deleted				
12-2-2	Deleted				
12-2-3	Deleted				
	<u>12.3 Submersible Pumps for Borewells (WP-SMP)</u>				
12-3-1	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 20 to 80 LPM discharge at 55 to 25 m head & (max efficiency at 41 m head & 50 lpm discharge & delivery pipe of necessary diameter with a necessary H. type clamp as per specification No. WP-SMP	Each	27152	4149	31301
12-3-2	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell , suitable for 70 to 250 LPM discharge at 44 to 24 m head & (max efficiency at 38 m head & 160 lpm discharge & delivery pipe of necessary diameter with a necessary H. type clamp as per specification No. WP-SMP	Each	32422	4149	36571

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-3	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell , 3 H.P. (2 Stage) suitable for 200 to 500 LPM discharge at 21 to 11 m head & (max efficiency at 19 m head & 300 Ipm) discharge & delievery pipeline 80 mm dia a necessary H. type clamp. As per specification No. WP-SMP	Each	29751	4149	33900
12-3-4	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell , suitable for 20 to 80 LPM discharge at 91 to 42 m head & (max efficiency at 68 m head & 50 Ipm) discharge & delivery pipe of necessary diameter with a necessary H. type clamp as per specification No. WP-SMP	Each	29268	4149	33417
12-3-5	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell , suitable for 100 to 250 LPM discharge at 45 to 24 m head & (max efficiency at 38 m head & 250 Ipm) discharge & delivery pipe of necessary diameter with a necessary H. type clamp as per specification No. WP-SMP	Each	29140	4149	33289
12-3-6	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell , suitable for 70 to 250 LPM discharge at 65 to 36 m head & (max efficiency at 57 m head & 160 Ipm) discharge & delivery pipe of necessary diameterwith a necessary H. type as per specification No. WP-SMP	Each	30317	4149	34466
12-3-7	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell , suitable for 250 to 700 LPM discharge at 33 to 15 m head & (max efficiency at 24 m head & 500 Ipm) discharge & delivery pipe of necessary diameter with a necessary H. type clamp as per specification No. WP-SMP	Each	31432	4149	35581

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-8	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell , suitable for 400 to 900 LPM discharge at 20 to 12 m head & (max efficiency at 16 m head & 700 lpm discharge & delivery pipe of necessary diameter with a necessary H. type clamp as per specification No. WP-SMP	Each	31393	4149	35542
12-3-9	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell , suitable for 20 to 80 LPM discharge at 129 to 59 m head & (max efficiency at 95 m head & 50 lpm discharge & delivery pipe of necessary diameter with a necessary H. type clamp as per specification No. WP-SMP	Each	34483	4769	39252
12-3-10	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 70 to 250 LPM discharge at 87 to 48 m head & (max. efficiency at 76 m head & 160 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	33955	4769	38724
12-3-11	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 60 to 175 LPM discharge at 97 to 56 m head & (max. efficiency at 79 m head & 125 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	36391	4769	41160
12-3-12	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 100 to 350 LPM discharge at 56 to 30 m head & (max. efficiency at 47 m head & 250 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	31430	4769	36199
12-3-13	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 200 to 500 LPM discharge at 42 to 22 m head & (max. efficiency at 34 m head & 350 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	31769	4769	36538

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-14	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 300 to 850 LPM discharge at 33 to 10 m head & (max. efficiency at 24 m head & 600 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	31940	4769	36709
12-3-15	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 300 to 850 LPM discharge at 33 to 10 m head & (max. efficiency at 33 m head & 600 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	35627	4769	40396
12-3-16	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 100 to 350 LPM discharge at 67 to 36 m head & (max. efficiency at 57 m head & 250 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	32744	4769	37513
12-3-17	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 60 to 175 LPM discharge at 113 to 66 m head & (max. efficiency at 92 m head & 125 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	38211	4769	42980
12-3-18	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 200 to 500 LPM discharge at 52 to 28 m head & (max. efficiency at 42 m head & 350 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	36231	4769	41000
12-3-19	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 250 to 700 LPM discharge at 44 to 20 m head & (max. efficiency at 32 m head & 500 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	34838	4769	39607

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-20	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 20 to 80 LPM discharge at 184 to 84 m head & (max. efficiency at 136 m head & 50 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	41018	4769	45787
12-3-21	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 300 to 850 LPM discharge at 44 to 14 m head & (max. efficiency at 32 m head & 600 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	37955	4769	42724
12-3-22	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 250 to 700 LPM discharge at 55 to 25 m head & (max. efficiency at 40 m head & 500 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	42196	4769	46965
12-3-23	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 60 to 175 LPM discharge at 130 to 75 m head & (max. efficiency at 106 m head & 125 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	40274	4769	45043
12-3-24	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 20 to 80 LPM discharge at 221 to 101 m head & (max. efficiency at 163 m head & 50 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	52410	4769	57179
12-3-25	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 20 to 80 LPM discharge at 258 to 118 m head & (max. efficiency at 190 m head & 50 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	52561	4769	57330

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-26	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 60 to 175 LPM discharge at 146 to 85 m head & (max. efficiency at 119 m head & 25 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	44167	4769	48936
12-3-27	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 300 to 850 LPM discharge at 55 to 17 m head & (max. efficiency at 40 m head & 600 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	43873	4769	48642
12-3-28	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 400 to 900 LPM discharge at 41 to 25 m head & (max. efficiency at 32 m head & 700 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	39707	4769	44476
12-3-29	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 70 to 250 LPM discharge at 153 to 84 m head & (max. efficiency at 133 m head & 160 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	48897	4769	53666
12-3-30	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 60 to 175 LPM discharge at 162 to 94 m head & (max. efficiency at 132 m head & 125 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	48928	4769	53697
12-3-31	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 20 to 80 LPM discharge at 294 to 134 m head & (max. efficiency at 218 m head & 50 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	59492	4769	64261

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-32	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 72 to 20 LPM discharge at 10 to 50 m head & (max. efficiency at 52 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	29976	4149	34125
12-3-33	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 84 to 40 LPM discharge at 30 to 90 m head & (max. efficiency at 69 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	27732	4149	31881
12-3-34	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 150 mm dia. borewell suitable for 42 to 20 m head at 30 to 90LPM discharge & (max. efficiency at 34 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	22115	4149	26264
12-3-35	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 45 to 13 m head & (max. efficiency at 33 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	16859	4149	21008
12-3-36	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 54 to 15 m head & (max. efficiency at 39 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	17614	4149	21763
12-3-37	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 72 to 20 m head & (max. efficiency at 33 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	17875	4149	22024

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-38	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 85 to 170 LPM discharge at 32 to 12 m head & (max. efficiency at 24 m head & 130 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	17032	4149	21181
12-3-39	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 30 to 90 LPM discharge at 42 to 20 m head & (max. efficiency at 34 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	18170	4149	22319
12-3-40	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 30 to 90 LPM discharge at 51 to 25 m head & (max. efficiency at 42 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	19147	4149	23296
12-3-41	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 32 to 12 m head & (max. efficiency at 26 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	18330	4149	22479
12-3-42	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 109 to 30 m head & (max. efficiency at 78 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	21450	4149	25599
12-3-43	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 127 to 35 m head & (max. efficiency at 91 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	24094	4149	28243

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-44	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 30 to 90 LPM discharge at 84 to 40 m head & (max. efficiency at 69 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	24159	4149	28308
12-3-45	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 127 to 35 m head & (max. efficiency at 91 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	23866	4149	28015
12-3-46	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 144 to 40 m head & (max. efficiency at 104 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	26957	4149	31106
12-3-47	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 85 to 170 LPM discharge at 43 to 18 m head & (max. efficiency at 33 m head & 130 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	22999	4149	27148
12-3-48	Supplying and erecting submersible pumpset of required HP with 230 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 160 to 45 m head & (max. efficiency at 116 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	29897	4149	34046
12-3-49	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 45 to 13 m head & (max. efficiency at 33 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	17268	4149	21417

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-50	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 54 to 15 m head & (max. efficiency at 39 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	18268	4149	22417
12-3-51	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 72 to 20 m head & (max. efficiency at 52 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	18474	4149	22623
12-3-52	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 85 to 170 LPM discharge at 32 to 12 m head & (max. efficiency at 24 m head & 130 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	24098	4149	28247
12-3-53	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 30 to 90 LPM discharge at 42 to 20 m head & (max. efficiency at 34 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	18712	4149	22861
12-3-54	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 30 to 90 LPM discharge at 51 to 25 m head & (max. efficiency at 42 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	19203	4149	23352
12-3-55	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 90 to 25 m head & (max. efficiency at 66 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	20781	4149	24930

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-56	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 109 to 30 m head & (max. efficiency at 78 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	23291	4149	27440
12-3-57	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 30 to 90 LPM discharge at 63 to 30 m head & (max. efficiency at 51 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	21967	4149	26116
12-3-58	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 30 to 90 LPM discharge at 84 to 40 m head & (max. efficiency at 69 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	23048	4149	27197
12-3-59	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 127 to 35 m head & (max. efficiency at 91 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	24497	4149	28646
12-3-60	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 144 to 40 m head & (max. efficiency at 104 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	25191	4149	29340
12-3-61	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 85 to 170 LPM discharge at 43 to 18 m head & (max. efficiency at 91 m head & 130 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	19516	4149	23665

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-62	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 10 to 50 LPM discharge at 160 to 45 m head & (max. efficiency at 116 m head & 30 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	29083	4149	33232
12-3-63	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 85 to 170 LPM discharge at 54 to 21 m head & (max. efficiency at 11 m head & 130 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	22813	4149	26962
12-3-64	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 30 to 90 LPM discharge at 105 to 50 m head & (max. efficiency at 85 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	32018	4149	36167
12-3-65	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 30 to 90 LPM discharge at 126 to 60 m head & (max. efficiency at 102 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	32031	4149	36180
12-3-66	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 85 to 170 LPM discharge at 67 to 27 m head & (max. efficiency at 49 m head & 130 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	26829	4149	30978
12-3-67	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 30 to 90 LPM discharge at 147 to 70 m head & (max. efficiency at 119 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	31710	4149	35859

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-3-68	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 30 to 90 LPM discharge at 168 to 80 m head & (max. efficiency at 136 m head & 60 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	34012	4149	38161
12-3-69	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 85 to 170 LPM discharge at 88 to 36 m head & (max. efficiency at 68 m head & 130 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	30506	4149	34655
12-3-70	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 85 to 170 LPM discharge at 110 to 46 m head & (max. efficiency at 83 m head & 130 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	33459	4149	37608
12-3-71	Supplying and erecting submersible pumpset of required HP with 415 V, 50 c/s AC supply suitable for 100 mm dia. borewell suitable for 85 to 170 LPM discharge at 133 to 55 m head & (max. efficiency at 100 m head & 130 lpm) discharge & delivery pipe of necessary diameter with a necessary H type clamps as per specification No. WP-SMP	Each	37534	4149	41683
Note:-	Preferably energy efficient motors with p.f. above 0.9 shall be used.				
	<u>12.4 Submersible Pumps for Open wells (WP-OSP)</u>				
12-4-1	Supplying and erecting submersible pump set suitable for erection on open well of required HP with 415 V 50 c/s.A.C. supply, having delivery head from 21 to 7 m and discharge from 200 to 800 Itrs. per minute (Max efficiency at 16 m head & 500 Itr discharge) & delivery pipe of necessary diameter erected with necessary H type clamps as per specification No. WP-OSP	Each	19849	2793	22642

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-4-2	Supplying and erecting submersible pump set suitable for erection on open well of required HP with 415 V 50 c/s.A.C. supply, having delivery head from 24 to 13m. and discharge from 400 to 1000 Itrs. per minute (Max efficiency at 21m head & 680 Itr discharge) & delivery pipe of necessary diameterline erected with necessary H type clamps as per specification No. WP-OSP	Each	22053	2793	24846
12-4-3	Supplying and erecting submersible pump set suitable for erection on open well of required HP with 415 V 50 c/s.A.C. supply, having delivery head from 20 to 10m and discharge from 450 to 1600 Itrs. per minute (Max efficiency at 17 m head & 1250 Itr discharge) & delivery pipe of necessary diameter erected with necessary H type clamps as per specification No. WP-OSP	Each	29324	2793	32117
12-4-4	Supplying and erecting submersible pump set suitable for erection on open well of required HP with 415 V 50 c/s.A.C. supply, having delivery head from 36 to 18 m and discharge from 400 to 1000 Itrs. per minute (Max efficiency at 29 m head & 680 Itr discharge) & delivery pipe of necessary diameter erected with necessary H type clamps as per specification No. WP-OSP	Each	31574	2793	34367
12-4-5	Supplying and erecting 1 phase, 230 V, 50 Hz, submersible pump set suitable for erection on open well , pump having discharge 35 / 270L.P.M., head 30 / 15 m & delivery pipe of necessary diameter erected with necessary H type clamps as per specification No. WP-OSP	Each	14597	2793	17390
12-4-6	Supplying and erecting 1 phase, 230 V, 50 Hz, submersible pump set suitable for erection on open well , pump having discharge 130 / 475 L.P.M., head 21 / 9 m & delivery pipe of necessary diameter erected with necessary H type clamps as per specification No. WP-OSP	Each	14853	2793	17646
Note:-	Preferably energy efficient motors with p.f. above 0.9 shall be used.				
	<u>12.5 Accessories</u>				
12-5-1	Supplying and erecting D. O. L. Starter suitable for 250V. single phase , 50 cycleswith overload element with necessarymaterials and connected to supply upto 2 H.P.	Each	967	236	1203
12-5-2	Supplying and erecting D.O.L. Starter 400V. 3 phase, 50 cycles with no volt coil and overload element with necessary materials and connected to supply upto 7.5 H.P. (Similar to L & T make	Each	2030	236	2266

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	MK-1 DOL Model)				
12-5-3	Supplying and erecting D.O.L. Starter 400V. 3 phase, 50 cycles with no volt coil and overload element with necessary materials and connected to supply for 10 H.P. (Similar to L & T make MN-16 DOL Model)	Each	3165	236	3401
12-5-4	Supplying and erecting fully Automatic star/delta starter suitable for 12.5 H.P. to 15 H.P. for 3 phase squirrel cage motor totally enclosed with overload and no volt relay complete erected on provided angle iron frame. (similar to L & T make MK-1 FASD model.)	Each	7299	326	7625
12-5-5	Supplying and erecting fully Automatic star/delta starter suitable for above 15 H.P. upto 25 H.P. squirrel cage motor totally enclosed with overload and no volt relay completeerected on provided angle iron frame.(Similar to L & T make ML-1.5 FASDModel)	Each	12857	326	13183
12-5-6	Supplying and erecting fully Automatic star / delta starter suitable for above 25 H. P. to 35 H. P. squirrel cage motor totally enclosed with overload and no volt relay complete erected on provided angle iron frame. (similar to L & T make MN 32 FASD model .)	Each	19890	416	20306
12-5-7	Supplying and erecting pump protection relay comprising current sensing phase failure and UV+OV relay with dry run and overload protection suitable for 3 phase pumps.(Similar to Minilec -D2 MPR 2 model)	Each	2734	416	3150
12-5-8	Supplying and erecting flat flexible 3 core 2.5 sq mm PVC sheathed submersible type copper cable suitably clamped at fixed intervals with column pipe assembly complete.	Mtr	101	30	131
12-5-9	Supplying and erecting flat flexible 3 core 4 sq mm PVC sheathed submersible type copper cable suitably clamped at fixed intervals with column pipe assembly complete.	Mtr	152	30	182
12-5-10	Supplying and erecting flat flexible 3 core 6 sq mm PVC sheathed submersible type copper cable suitably clamped at fixed intervals with column pipe assembly complete.	Mtr	228	30	258

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-5-11	Supplying and erecting flat flexible 3 core 1.5 sq mm PVC sheathed submersible type copper cable suitably clamped at fixed intervals with column pipe assembly complete.	Mtr	68	30	98
12-5-12	Deleted				
12-5-13	Deleted				
12-5-14	Supplying & erecting Water level controller 230/415 V AC., Two way for under ground tank operation only.	Each	1345	326	1671
12-5-15	Supplying & erecting Water level controller 230/ 415V AC., Four way for under ground & Over head tank operation.	Each	1373	326	1699
12-5-16	Supplying & erecting PVC coated 5 mm dia Brass Sensor/ electrode duly wired with nut & bolts complete	Each	144	154	298
12-5-17	Supplying & erecting automatic control panel for 3 Ph, 415 volt, A.c. Submersible/centrifugal pump set upto 7.5 HP consisting of DOL starter having relay range 9-14 AMP,S.P.P., Combined ammeter/voltmeter, phase indicating lamp enclosed in CRCA powder coated Vibration proof encloser with IP 54 protection. Control Panel should offer single phasing, phase reversal, phase inbalance etc (Similar to LT model no.MU G6/ CAT NO. SS97756)	Each	5885	326	6211
12-5-18	Supplying & erecting automatic control panel for 3 Ph, 415 volt, A.c. Submersible/centrifugal pump set upto 7.5-10 HP consisting of DOL starter having relay range 13-21 AMP,S.P.P., Combined ammeter/voltmeter, phase indicating lamp enclosed in CRCA powder coated Vibration proof encloser with IP 54 protection. Control Panel should offer single phasing, phase reversal, phase inbalance etc (Similar to LT model no.MU G10 / CAT NO. SS95983)	Each	6882	326	7208

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-5-19	Supplying & erecting automatic control panel for 3 Ph, 415 volt, A.c. Submersible/centrifugal pump set upto 7.5-10 HP consisting of DOL starter having relay range 28-42 AMP,S.P.P., Combined ammeter/voltmeter, phase indicating lamp enclosed in CRCA powder coated Vibration proof encloser with IP 54 protection. Control Panel should offer single phasing, phase reversal, phase inbalance etc (Similar to LT model no.MU G10 H / CAT NO. SS95974)	Each	8016	326	8342
12-5-20	Supplying & erecting automatic control panel for 1 Ph, 230 volt, A.c. Submersible/centrifugal pump set upto 2 HP consisting of DOL starter Of suitable relay range S.P.P., Combined ammeter/ voltmeter, phase indicating lamp enclosed in CRCA powder coated Vibration proof encloser with IP 54 protection. Control Panel should offer single phasing, phase reversal, phase inbalance etc (Similar to LT model no.MR G2)	Each	4972	326	5298
12-5-21	Supplying & erecting automatic control panel for 3 Ph, 415 volt, A.c. Submersible/centrifugal pump set upto 20 HP consisting of Star Delta starter having relay range 13-21Amp,S.P.P., Combined ammeter/ voltmeter, phase indicating lamp enclosed in CRCA powder coated Vibration proof encloser with IP 54 protection. Control Panel should offer single phasing, phase reversal, phase inbalance etc (Similar to LT model no.MU G20 / CAT NO. SS 95984)	Each	13246	529	13775
12-5-22	Supplying & erecting automatic control panel for 3 Ph, 415 volt, A.c.Submersible/centrifugal pump set upto 20 HP consisting of Star Delta starter having relay range 28-42 Amp, S.P.P., Combined ammeter/ voltmeter, phase indicating lamp enclosed in CRCA powder coated Vibration proof encloser with IP 54 protection. Control Panel should offer single phasing, phase reversal, phase inbalance etc (Similar to LT model no.MU G20H / CAT NO. SS 95975)	Each	16789	529	17318

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-5-23 (New)	Supplying & erecting automatic control panel for 3 Ph, 415 volt, A.c.Submersible/centrifugal pump set upto 30 HP consisting of Star Delta starter having relay range 30-50 Amp, S.P.P., Combined ammeter/ voltmeter, phase indicating lamp enclosed in CRCA powder coated Vibration proof encloser with IP 54 protection. Control Panel should offer single phasing, phase reversal, phase inbalance etc (Similar to LT model no.MU G30 / CAT NO. CS 96008)	Each	28553	529	29082
12-5-24 (New)	Supplying & erecting Soft Starters for 3 phase 415 volt, A.C. water pump upto 15 H.P. consisting of RS-485 Communication port, Compact size & range, internal by-pass contactor, 400% max. allowed overload of nominal current, with Compatibility with teleservice software "Remote Drive" on internet, having protection for motor overload, phase sequence, excess start time, phase loss, power circuit fault, supply frequency, communication failure etc. complete.	Each	39943	946	40889
12-5-25 (New)	Supplying & erecting Soft Starters for 3 phase 415 volt, A.C. water pump 15 -30 H.P. consisting of RS-485 Communication port, Compact size & range, internal by-pass contactor, 400% max. allowed overload of nominal current, with Compatibility with teleservice software "Remote Drive" on internet, having protection for motor overload, phase sequence, excess start time, phase loss, power circuit fault, supply frequency, communication failure etc. complete.	Each	46928	946	47874
12-5-26 (New)	Supplying & erecting flat flexible 3 core 10 sq.mm PVC sheathed submersible type copper cable suitably clamped at fixed intervals with coloum pipe assembly complete.	Mtr	396	30	426
12-5-27 (New)	Supplying & erecting flat flexible 3 core 16 sq.mm PVC sheathed submersible type copper cable suitably clamped at fixed intervals with coloum pipe assembly complete.	Mtr	615	30	645
12-5-28 (New)	Supplying & erecting automatic control panel for 3 Ph, 415 volt, A.c.Submersible/centrifugal pump set upto 10 HP consisting of Star Delta starter having relay range 6-10 Amp, S.P.P., Combined ammeter/ voltmeter, phase indicating lamp enclosed in CRCA powder coated Vibration proof encloser with IP 54 protection. Control Panel should offer single phasing, phase reversal, phase inbalance etc (Similar to LT model no.MU G15/ CAT NO. CS94091SOVO)	Each	11697	529	12226

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
12-5-29 (New)	Supplying & erecting automatic control panel for 3 Ph, 415 volt, A.c.Submersible/centrifugal pump set upto 10 - 15 HP consisting of Star Delta starter having relay range 13-22 Amp, S.P.P., Combined ammeter/voltmeter, phase indicating lamp enclosed in CRCA powder coated Vibration proof encloser with IP 54 protection. Control Panel should offer single phasing, phase reversal, phase inbalance etc (Similar to LT model no.MU G15/ CAT NO. CS94091SODO)	Each	11797	529	12326
12-5-30 (New)	Supplying & erecting Float sensor switch for water level controller working on 250V & rated current 8A, with 2 mtr. wire & High quality of wire & plastic body.	Each	388	109	497
12-5-31 (New)	Supplying & erecting directly operated Single phasing preventor complete erected and connected to supply to operate in case of single phasing with guarantee for minimum one year.	Each	1092	138	1230
<u>12.6 Dewatering Pump</u>					
12-6-1 (New)	Supplying & erecting Dewatering Submersible pump set 415V, 3 phase, 50C/s, A.C. supply of 2 H.P., of 2 to 17 m haad with 600 to 100 LPM discharge, non clogging minimised abrasive wear, large impeler clearance & maintenance free pump set with water proof cable duly sealed with epoxy material built in protection to prevent the motor from burn out due to abnormal operation. specilly designed high efficiency motor with F class insulation & the pump mechanically sealed in the oil chember,. etc. complete as per sepcification no. (WP-DWP-SMP)	Each	41007	2793	43800
<u>12.7 Pressure Pump</u>					
12-7-1 (New)	Supplying & erecting Pressure Booster Pump, single phase, 50C/s, A.C. supply of 0.5 H.P., for Domestic Pressure boosting applications in Bunglows, appartments, hotels etc for constant pressure for Bathrooms. As per sepcification no. (WP-PP)	Each	22079	1143	23222
12-7-2 (New)	Supplying & erecting Pressure Booster Pump, single phase, 50C/s, A.C. supply of 1 H.P., for Domestic Pressure boosting applications in Bunglows, appartments, hotels etc for constant pressure for Bathrooms. As per sepcification no. (WP-PP)	Each	23262	1143	24405
12-7-3 (New)	Supplying & erecting Pressure Booster Pump, single phase, 50C/s, A.C. supply of 1.5 H.P., for Domestic Pressure boosting applications in Bunglows, appartments, hotels etc for constant pressure for Bathrooms. As per sepcification no. (WP-PP)	Each	24790	1143	25933

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>12.8 Dismantling Material</u>					
12-8-1	Dismantling the existing monoblock / open well submersible water pump set centrifugal type without pipeline complete and making the site clear.	HP	0	90	90
12-8-2	Dismantling the existing ejecto type water pump set without pipeline complete and making the site clear.	HP	0	90	90
12-8-3	Dismantling the existing ejecto pump with PVC pipeline.	Each	0	990	990
12-8-4	Dismantling the existing ejecto pump with GI pipeline upto 10 m depth.	Each	0	2516	2516
12-8-5	Dismantling the existing Submersible pump with PVC pipeline	Each	0	960	960
12-8-6	Dismantling the existing submersible pump with GI pipeline upto 10m depth. (For additional depth of each 3 m or part thereof add Rs.50/- per 3 m, in the rates)	Each	0	2516	2516
12-8-7 (New)	Attending breakdown of water pump & associated ancliries for fault finding including minor repairs & put in working condition & submit the report of inspection to the engineer in-charge.	Each	0	960	960

Chapter 13

FIRE FIGHTING & FIRE ALARM (FF)

13.1 Main Fire Pumps (Single Stage Centrifugal)	(FF-MFP/SSC)
13.2 Main Fire Pumps (Multi Stage Centrifugal)	(FF-MFP/MSC)
13.3 Main Fire Pumps (Submersible)	(FF-MFP/SBM)
13.4 Jockey Pumps (Centrifugal)	(FF-MFP/JP)
13.5 Booster Pump	(FF-MFP/BP)
13.6 Pipes	(FF-PP)
13.7 Foot Valve	(FF-FV)
13.8 Fire Fighting Accessories	(FF-FFA)
13.9 Fire Alarm System	(FF-FAS)
13.1 Fire Alarm Accessories	(FF-FAAS)
13.11 P A System	(FF-PAS)
13.12 Sprinklers	(FF-SPR)
13.13 FIRE SEALANT SYSTEM	(FF-FRM)
13.14 FIRE SAFETY AUDIT	

Chapter 13 : FIRE FIGHTING & FIRE ALARM (FF)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>13.1 Main Fire Pumps (Single Stage Centrifugal) (FF-MFP/SSC)</u>					
13-1-1	Supplying and installing, testing, perfect aligning and proper leveling and commissioning of fire service main pump , of 1400 LPM (Litres/min.) at 56m centrifugal type single stage pump of 30 HP, (22 kW) or of suitable HP with as per specification No. FF-MFP/SSC	Each	125741	7964	133705
13-1-2	Supplying and installing, testing, perfect aligning and proper leveling and commissioning of fire service main pump , of 1800 LPM (Litres/min.) at 76 m head centrifugal type single stage pump, 50 HP, (37 kW) or of suitable HP as per specification No. FF-MFP/SSC	Each	198495	9282	207777
13-1-3	Supplying and installing, testing, perfect aligning and proper leveling and commissioning of fire service main pump , of 2400 LPM (Litres/min.) at 76 m head centrifugal type single stage pump, 75 HP, (55 kW) or of suitable HP as per specification No. FF-MFP/SSC	Each	273833	10929	284762
<u>13.2 Main Fire Pumps (Multi Stage Centrifugal) (FF-MFP/MSC)</u>					
13-2-1	Supplying and installing, testing, perfect aligning and proper leveling and commissioning of fire service main pump , multistage, of 2400 LPM (Litres/min.) at 88m head centrifugal type, 75 HP, (55 kW) or of suitable HP as per specification No. FF-MFP/MSC	Each	307490	10929	318419
13-2-2	Supplying and installing, testing, perfect aligning and proper leveling and commissioning of fire service main pump , multistage, of 2800 LPM (Litres/min.) at 76m head centrifugal type, 75 HP, (55 kW) or of suitable HP as per specification No. FF-MFP/MSC	Each	393043	10929	403972
13-2-3	Supplying and installing, testing, perfect aligning and proper leveling and commissioning of fire service main pump , multistage, of 2800 LPM (Litres/min.) at 105m head centrifugal type, 120 HP, (90 kW) or of suitable HP as per specification No. FF-MFP/MSC	Each	460647	13893	474540

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>13.3 Main Fire Pumps (Submersible) (FF-MFP/SBM)</u>					
13-3-1	Deleted				
13-3-2	Deleted				
13-3-3	Deleted				
13-3-4	Deleted				
13-3-5	Deleted				
13-3-6	Deleted				
13-3-7	Deleted				
13-3-8	Deleted				
<u>13.4 Jockey Pumps (Centrifugal) (FF-MFP/JP)</u>					
13-4-1	Supplying installing, testing, commissioning of Jockey Pump of 240 LPM at 56 m head, 3 ph. 440 A.C.15 HP, (11 kW) or of suitable HP with suitable Stages as per specification No. FF-MFP/JP	Each	47078	4312	51390
13-4-2	Supplying installing, testing, commissioning of Jockey Pump of 240 LPM at 105 mtr. head 3 ph. 440 A.C., 20 HP (18.5 kW) or of suitable HP with suitable Stages as per specification No. FF-MFP/JP	Each	127153	5319	132472
<u>Jockey Pumps (Submercible type)</u>					
13-4-3	Deleted				
13-4-4	Deleted				
<u>13.5 Booster Pump (FF-MFP/BP)</u>					
13-5-1	Supplying installing, testing, commissioning of Booster Pump of 450 LPM at 35 m head single stage (mono block) 3 ph. 440 A.C. 7.5 HP or of suitable HP with suitable Stages as per specification No. FF-MFP/BP	Each	32824	4696	37520
13-5-2	Supplying installing, testing, commissioning of Booster Pump of 468 LPM at 40m head, 10 HP or of suitable HP with suitable Stages as per specification No. FF-MFP/BP	Each	38256	4861	43117
13-5-3	Booster Pump of 180 LPM at average 40 m Head, 5 HP or of suitable HP with suitable Stages.	Each	24211	2939	27150
13-5-4	Booster Pump of 900 LPM at average 40 m Head, 12.5 HP either Monoblock or of suitable HP with suitable Stages.	Each	48048	4990	53038
<u>13.6 Pipes (FF-PP)</u>					
13-6-1	Supplying and installing G.I.pipe above ground of 'C' class ERW of size 20 mm dia with necessary fittings as per specification No. FF-PP	m	158	93	251

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
13-6-2	Supplying and installing G.I.pipe above ground of 'C' class ERW of size 25 mm dia with necessary fittings as per specification no. FF-PP	m	227	93	320
13-6-3	Supplying and installing G.I.pipe above ground of 'C' class ERW of size 50 mm dia with necessary fittings as per specification No. FF-PP	m	496	93	589
13-6-4	Supplying and installing G.I.pipe above ground of 'C' class ERW of size 75/80 mm dia with necessary fittings as per specification No. FF-PP	m	789	148	937
13-6-5	Supplying and installing G.I.pipe above ground of 'C' class ERW of size 100 mm dia with necessary fittings as per specification no. FF-PP	m	1125	148	1273
13-6-6	Supplying and installing G.I.pipe above ground of 'C' class ERW of size 150 mm dia with necessary fittings as per specification no. FF-PP	m	1664	148	1812
13-6-7	Supplying and installing G.I.pipe above ground of 'C' class ERW of size 200 mm dia with necessary fittings as per specification no. FF-PP	m	2261	178	2439
13-6-8	Providing coating of Bitumen Paint & 4mm thick Wrapping as per IS 10221 for underground 100 mm Ring Main of Fire Fighting System.	m	120	236	356
13-6-9	Providing coating of Bitumen Paint & 4mm thick Wrapping as per IS 10221 for underground 150 mm Ring Main of Fire Fighting System.	m	180	292	472
13-6-10	Providing coating of Bitumen Paint & 4mm thick Wrapping as per IS 10221 for underground 200 mm Ring Main of Fire Fighting System.	m	240	416	656
Note:-	In case of laying underground pipes, consider excavation charges as per chapter no. 16 (Civil Works)				
	<u>13.7 Foot Valve (FF-FV)</u>				
13-7-1	Supplying and installing cast iron foot valve ball type/flap type of size 80 mm dia with strainer for negative suction as per specification No. FF-VL/FV	Each	4349	379	4728
13-7-2	Supplying and installing cast iron foot valve ball type/flap type of size 100 mm dia with strainer for negative suction as per specification No. FF-VL/FV	Each	6316	379	6695
13-7-3	Supplying and installing cast iron foot valve ball type/flap type of size 150 mm dia with strainer for negative suction as per specification No. FF-VL/FV	Each	14757	705	15462

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
13-7-4	Supplying and installing cast iron foot valve ball type/flap type of size 200 mm dia with strainer for negative suction as per specification No. FF-VL/FV	Each	29128	705	29833
	<u>End Line Strainer (+ve suction) (ELS)</u>				
13-7-5	Supplying and installing 75/80 mm dia end line strainer for +ve suction as per specification No. FF-VL/ELS	Each	4266	379	4645
13-7-6	Supplying and installing 100 mm dia end line strainer for +ve suction as per specification No. FF-VL/ELS	Each	6081	379	6460
13-7-7	Supplying and installing 150 mm dia end line strainer for +ve suction as per specification No. FF-VL/ELS	Each	8834	705	9539
13-7-8	Supplying and installing 200 mm dia end line strainer for +ve suction as per specification No. FF-VL/ELS	Each	10853	705	11558
	<u>Sluice Valve</u>				
13-7-9	Supplying and installing cast iron double flange sluice valve 75/80 mm dia. as per specification No. FF-VL/SV	Each	4972	379	5351
13-7-10	Supplying and installing cast iron double flange sluice valve 100 mm dia. as per specification No. FF-VL/SV	Each	6531	379	6910
13-7-11	Supplying and installing cast iron double flange sluice valve 150 mm dia. as per specification No. FF-VL/SV	Each	10058	705	10763
13-7-12	Supplying and installing cast iron double flange sluice valve 200 mm dia. as per specification No. FF-VL/SV	Each	17425	705	18130
	<u>Butterfly Valves (BFV)</u>				
13-7-13	Supplying & Installing cast iron double flange butterfly valve of size 75/80 mm dia. as per specification No. FF-VL/BFV	Each	2674	379	3053
13-7-14	Supplying & Installing cast iron double flange butterfly valve of size 100 mm dia. as per specification No. FF-VL/BFV	Each	3527	379	3906
13-7-15	Supplying & Installing cast iron double flange butterfly valve of size 150 mm dia. as per specification No. FF-VL/BFV	Each	5317	705	6022
13-7-16	Supplying & Installing cast iron double flange butterfly valve of size 200 mm dia. as per specification No. FF-VL/BFV	Each	8258	705	8963
	<u>Non Return Valves (NRV)</u>				
13-7-17	Supplying and installing double flange NRV of size 75/80 mm dia as per specification No. FF-VL/NRV	Each	6241	379	6620
13-7-18	Supplying and installing double flange ball type NRV of size 75/80 mm dia as per specification No. FF-VL/NRV	Each	5779	653	6432

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
13-7-19	Supplying and installing double flange NRV of size 100 mm dia as per specification No. FF-VL/NRV	Each	7778	653	8431
13-7-20	Supplying and installing double flange NRV of size 150 mm dia as per specification No. FF-VL/NRV	Each	19822	705	20527
13-7-21	Supplying and installing double flange Ball type NRV of size 150 mm dia as per specification No. FF-VL/NRV	Each	25777	829	26606
13-7-22	Supplying and installing double flange NRV of size 200 mm dia as per specification No. FF-VL/NRV	Each	28688	705	29393
13-7-23	Supplying and installing double flange Ball type NRV of size 200 mm dia as per specification No. FF-VL/NRV	Each	48326	829	49155
<u>Gate / Wheel Valves (GV)</u>					
13-7-24	Supplying & installing gun metal gate valve of size 20mm dia as per specification No. FF-VL/GV	Each	761	216	977
13-7-25	Supplying & installing gun metal gate valve of size 25mm dia as per specification No. FF-VL/GV	Each	1043	216	1259
13-7-26	Supplying & installing gun metal gate valve of size 50mm dia as per specification No. FF-VL/GV	Each	900	216	1116
<u>Hydrant Valves (HV)</u>					
13-7-27	Supplying and installing gun metal single outlet hydrant valve fitted with necessary accessories complete as per specification No. FF-VL/HV	Each	7173	379	7552
13-7-28	Supplying and installing gun metal Stainless Steel single outlet hydrant valve fitted with necessary accessories complete as per specification No. FF-VL/HV	Each	5258	379	5637
13-7-29	Supplying and installing gun metal Double outlet hydrant valve fitted with necessary accessories complete as per specification No. FF-VL/HV	Each	3188	379	3567
13-7-30	Supplying and installing gun metal Stainless Steel Double outlet hydrant valve fitted with necessary accessories complete as per specification No. FF-VL/HV	Each	11993	379	12372
<u>13.8 Fire Fighting Accessories (FF-FFA)</u>					
<u>Priming Tank</u>					
13-8-1	Supplying & installing One piece moulded HDP / Fibre water tank . for -ve suction only, having capacity 1000 ltrs.fitted with necessary accessories complete as per specification No. FF-FFA/PT	Each	9208	242	9450
<u>Hose Reel with Drum (HR)</u>					
13-8-2	Deleted				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
13-8-3	Supplying and installing wall mounting swinging Hose reel drum fitted with 19 mm dia. 30m high pressure polypropylene (Polyhose) long fitted with necessary accessories complete as per specification No. FF-FFA/HV	Each	6779	379	7158
13-8-4	Deleted				
	<u>Hose Pipes</u>				
13-8-5	Supplying fire fighting C.P. (controlled percolation) Hose pipe, 63mm dia, 15m in length, fitted with necessary accessories complete as per specification no. FF-FFA/CPH	Each	4316	0	4316
13-8-6	Supplying fire fighting R.R.L. Hose pipe, 63mm dia,15m in length, fitted with necessary accessories complete as per specification no. FF-FFA/RRL	Each	5423	0	5423
13-8-7	Deleted				
13-8-8	Supplying & erecting high pressure poly propylene hose pipe 19 mm dia complete as per specification No. FF-FFA/HOP	m	152	39	191
13-8-9	Supplying & erecting high pressure rubber hose pipe 19 mm dia complete as per specification no. FF-FFA/RHP	m	109	39	148
	<u>Nozzles (NZ)</u>				
13-8-10	Supplying G.M. branch pipe of 63 mm Ø fitted with 20 mm Ø detachable hexagonal nozzle as per specification No. FF-FFA/NZ	Each	1868	0	1868
13-8-11	Supplying Stainless Steel branch Pipe 63 mm Ø fitted with 20 mm dia detachable hexagonal nozzle as per specifications No. FF-FFA/NZ	Each	1903	0	1903
13-8-12	Supplying & erecting Gun Metal Chrome plated Nozzle , 19 mm Ø complete as per specification No. FF-FFA/NZ	Each	1034	0	1034
	<u>Fire Brigade Connection (FBC)</u>				
13-8-13	Supplying and installing fire brigade Header of 150 mm Ø, for supplying water in fire tank as per specification No. FF-FA/FBC	Each	9238	388	9626
	<u>Siamese Connection (SMC)</u>				
13-8-14	Supplying and installing fire brigade Header (Siamese Connection) of 150 mm Ø for supplying water to wet riser system as per specification No. FF-FFA/SMC	Each	11152	379	11531
	<u>Air Cushion Tank (Air Vessel) (ACT)</u>				
13-8-15	Supplying and installing Air Vessel of 300 mm Ø 1.5m in height M.S. tank installed inside pump house as per specification No. FF-FFA/ACT	Each	11654	461	12115

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>Air Release Valve (ARV)</u>					
13-8-16	Supplying and erecting 20/25mm Ø G.M. air release cock , with necessary G.I. coupling to be fitted on top of Air vessel or on wet riser as per specification No. FF-FFA/ARV	Each	705	102	807
<u>Pressure Guage (PG)</u>					
13-8-17	Supplying and installing pressure gauge of 100 mm Ø., 0-300 PSI or 0-14 kg per cm square fitted with 12/15 mm Ø. pad cock valve, and G.I. pipe, elbow etc. as per requirement in an approved manner as per specification No. FF-FFA/PG	Each	668	102	770
<u>Pressure Switch(PS)</u>					
13-8-18	Supplying and installing DANFOSS make pressure switch with 12/15 mm Ø isolation valve, G.I. nipple, elbow etc. in an approved manner as per specification No. FF-FFA/PS	Each	1714	102	1816
<u>Orifice Plate(OP)</u>					
13-8-19	Supplying and erecting one no. Brass orifice plate having 6 mm. thickness, 140 mm outer dia of 140 mm at every single outlet hydrant valve as per specification No. FF-FFA/OP	Each	922	75	997
13-8-20	Supplying and erecting one no. Brass orifice plate having 6 mm thickness, 160 mm outer dia at every double outlet hydrant valve as per specification No. FF-FFA/OP	Each	999	75	1074
<u>MS / CRCA Boxes (BOX)</u>					
13-8-21	Supplying and erecting M.S./CRCA cabinet for housing single hydrant valve (size 400 x 400 x 400mm.) made from 16 SWG sheet and angle iron 25 mm. x 25 mm. x 4 mm. having front doors with viewing glass (8"x6") and locking arrangement with necessary fixing material such as rubber bidding etc. duly painted in post box red colour.	Each	4467	720	5187
13-8-22	Supplying and erecting M.S./CRCA cabinet for housing Fire Brigade / SIEMESE connections (size 1250 x 400 x 300 mm.) made from 16 SWG sheet and angle iron 25 mm. x 25 mm. x 4 mm. having front doors with viewing glass (8" x 6") and locking arrangement with necessary fixing material such as rubber bidding etc. duly painted in post box red colour.	Each	7299	547	7846

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
13-8-23	Supplying and erecting M.S./CRCA cabinet for housing Floor Hydrant valve, hose pipe, hose reel and branch pipe (size 1000 mm x 736mm x 736 mm.) made from 16 SWG sheet and angle iron 25 mm. x 25 mm. x 4 mm. having front doors with viewing glass (8"x6") and locking arrangement with necessary fixing material such as rubber bidding etc. duly painted in post box red colour.	Each	14381	1070	15451
13-8-24	Supply Stainless steel branch pipe of 63 mm dia. Fitted with 20mm dia. ISI mark IS 903 complete in all respect		1775	381	2156
13-8-25	Stainless steel landing valve single head dia.3mm (Type A) ISI marked IS 5290 complete in all respects brand Lifeguard		5205	381	5586
<u>13.9 Fire Alarm System (FF-FAS)</u>					
13-9-1	Supplying and erecting testing heat detector complete on box as per specification no. FF-FAS/HD	Each	1663	180	1843
13-9-2	Supplying, erecting and testing optical type smoke detector complete on box as per specification No. FF-FAS/SD	Each	1481	180	1661
13-9-3	Supplying & Erecting four wire conventionally single ended reflected type beam smoke detector with 8" receiver . The range of smoke detector is max 325 feet.	Each	59033	2512	61545
Note:-	1.For large areas and passages beam detectors should be preferably used (Item No. 13-9-3) 2. Above rates of detectors are for Non-Addressable type.				
<u>13.10 Fire Alarm Accessories (FF-FAAS)</u>					
13-10-1	Supplying, erecting, testing and commissioning Manual Call Point (Pill box) with break glass push button in metal enclosure complete as per specification No. FF-FAAS/MCP	Each	410	90	500
13-10-2	Supply and erecting hooters with CRCA enclosure complete as per specification No. FF-FAAS/HTR	Each	455	135	590
13-10-3	Supplying, erecting and testing remote response indicators as per specification No. FF-FAAS/RRI	Each	107	90	197
Note:-	Above rates are for Non-Addressable type.				
13-10-4	Supplying and erecting XLPE armoured cable 2 core 1.5 sq.mm. copper conductor complete erected on wall/ ceiling as per specification No. CB-LT/CU	m.	100	15	115
13-10-5	Supplying and erecting XLPE armoured cable 4 core 1.5 sq.mm. copper complete erected on wall/ ceiling as per specification No. CB-LT/CU	m	120	15	135

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
13-10-6	Supplying and erecting XLPE armoured cable 8 core 1.5 sq.mm. copper complete erected on wall/ ceiling as per specification No. CB-LT/CU	m	243	30	273
13-10-7	Supplying and erecting XLPE armoured cable 12 core 1.5 sq.mm. copper complete erected on wall/ ceiling as per specification No. CB-LT/CU	m	346	30	376
	Note:- For Item No 13-10-4 to 13-10-7 increase Rate by 7.50% for FRLS cables.				
13-10-8	Deleted				
13-10-9	Deleted				
13-10-10	Deleted				
13-10-11	Deleted				
13-10-12	Deleted				
13-10-13	Deleted				
13-10-14	Supplying, erecting, testing and commissioning the 2 Zones Microprocessor based conventional Fire Alarm Control Panel (FACP) with standard accessories complete as per specification No. FF-FAAS/FACP	Each	17446	1280	18726
	Note:- 1. Increase over all rate by 25 % for additional zone as per requirement. 2. Above rates are for Non-Addressable type.				
13-10-15	Supplying, erecting, testing and commissioning 2 Zone, local signal control panel (LCP) with standard accessories complete as per specification No. FF-FAAS/LCP	Each	5446	640	6086
	Note:- 1. Increase over all rate by 10 % for additional zone as per requirement. 2. Above items are for Non-Addressable type.				
<u>13.11 P A System (FF-PAS)</u>					
13-11-1	Supplying, erecting, testing and commissioning amplifier 120 W for Public address system suitable to operate on 230 Volts A.C. / 12 Volts D.C. supply as per specification No. FF-PA/AFR	Each	19563	286	19849
13-11-2	Supplying, erecting, testing and commissioning sound column 15 Watts complete as per specification No. FF-PA/SOC	Each	2949	64	3013
13-11-3	Supplying, erecting, testing and commissioning microphone as per specification No. FF-PA/MIC	Each	5664	90	5754
13-11-4	Supplying & erecting, stand for microphone. (Similar to AHUJA make model DGN)	Each	1973	64	2037
13-11-5	Supplying & erecting, Table stand for microphone. (Similar to AHUJA make model DGT)	Each	1209	64	1273

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
13-11-6	Supplying erecting, testing to 2 core shielded Microphone cable as per specification No. FF-PA/MCC	m	139	15	154
13.12 Sprinklers (FF-SPR)					
13-12-1	Supplying and erecting 15 mm (½") dia. NBCM Body chrome finished quartzoid bulb sprinkler having 68° C fixed temperature rating with deflector disc of conventional construction as per specification No. FF-SPR	Each	269	180	449
13-12-2	Supplying & erecting vane type water flow detector suitable for detecting flow of water in wet sprinkler pipe of main line or branch lines of 75/80 mm dia having following features 1) Visual Switch Activation 2) Rugged Switch Assembly 3) Heavy Duty Alluminium pipe Saddles 4) Durable Metal Encloser 5) Steel U Bolts For Secure Mounting 6) Two SPDT (Single Pole Double Track) Synchronised Switches 7) Serviceable Without Draining Pipes	Each	6972	180	7152
13-12-3	Supplying & erecting vane type water flow detector suitable for detecting flow of water in wet sprinkler pipe of main line or branch lines of 100 mm dia having following features 1) Visual Switch Activation 2) Rugged Switch Assembly 3) Heavy Duty Alluminium pipe Saddles 4) Durable Metal Encloser 5) Steel U Bolts For Secure Mounting 6) Two SPDT (Single Pole Double Track) Synchronised Switches 7) Serviceable Without Draining Pipes	Each	7988	180	8168
13.13 FIRE SEALANT SYSTEM (FF-FRM)					
13-13-1	Supplying and erecting Fire resistant Mortar (20 kg) with fire resistance class S90 as per National Electrical Code (NEC) SP30-2011 suitable to seal the openings with all kinds of cables, pipes and cable support system in steel and aluminium and plastic profiles (Except hollow core conductors). The residual openings shall be closed with filler, as per specification No. FF-FRM	Job	9020	211	9231
Note:-	For estimating purpose consider one bag of 20kg to cover 300mm x 400mm area 150mm thick or 0.018 m3				
13-13-2 (New)	Supplying & Erecting four wire conventionally single ended reflected type beam smoke detector with 8 “ receiver . The range of smoke detector is max 164feet.	Each	36016	3912	39928
13.14 FIRE SAFETY AUDIT					
13-14-1 (New)	Providing/Conducting Complete Fire audit including submission of building wise audit/compliance Report	Sq mtr	0	6	6

Chapter 14

TEMPORARY ILLUMINATION (TE - IL)

14.1 Temporary Illumination

(TE-IL)

14.2 Hiring of Generators

(TE-DG)

Chapter 14 : TEMPORARY ILLUMINATION

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
14.1 Temporary Illumination					
14-1-1	Deleted				
14-1-2	Deleted				
14-1-3	Temporary illumination consisting of tube light day light & colour 4' X 36/40 Watts complete erected with tubes, mains and Switchgears with continuous earth wire erected and dismantled without using scaffolding upto three days.	Each	15	30	45
14-1-4	Temporary illumination consisting of tube light day light & colour 4' X 36/40 Watts complete erected with tubes, mains and Switchgears with continuous earth wire erected and dismantled with using scaffolding upto three days.	Each	15	45	60
14-1-5	Temporary illumination consisting of flood light fitting 1000/500W. complete halogen fitting with lamp, holders, mains and Switchgears with continuous earth wire erected and dismantled without using scaffolding upto three days.	Each	164	60	224
14-1-6	Temporary illumination consisting of flood light 1000/500W. complete halogen fitting with lamp, holders, mains and Switchgears with continuous earth wire erected and dismantled, with scaffolding upto three days.	Each	164	75	239
14-1-7	Temporary illumination consisting of Metal Halide flood light fitting 250 W complete with lamp, holders, mains and Switchgears with continuous earth wire erected and dismantled without using scaffolding upto three days.	Each	227	60	287
14-1-8	Temporary illumination consisting of Metal Halide flood light fitting 250 W complete with lamp, holders, mains and Switchgears with continuous earth wire erected and dismantled, with using scaffolding upto three days.	Each	227	75	302
14-1-9	Temporary illumination consisting of Metal Halide flood light fitting 400 W complete with lamp, holders, mains and Switchgears with continuous earth wire erected and dismantled, without using scaffolding upto three days.	Each	243	60	303
14-1-10	Temporary illumination consisting of Metal Halide flood light fitting 400 W complete with lamp, holders, mains and Switchgears with continuous earth wire erected and dismantled, with using scaffolding upto three days.	Each	243	75	318

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
14-1-11	Temporary illumination consisting of white/colour series lights 50 Nos. with miniature lamps of 6.2 to 16V with holders, bulbs, mains and Switchgears erected and dismantled with rotor effect as approved without scaffolding upto three days.	Per Thous and	772	360	1132
14-1-12	Temporary illumination consisting of white/colour series lights 50 Nos. with miniature lamps of 6.2 to 16V with holders, bulbs, mains and Switchgears erected and dismantled with rotor effect as approved with scaffolding upto three days	Per Thous and	842	515	1357
14-1-13	Temporary illumination consisting of 2000W sungun or colour tran light fitting complete with stand cutter & strainer alongwith mains, tube & Switchgears with continuous earth wire erected & dismantled without scaffolding upto three days.	Each	312	129	441
14-1-14	Providing & fixing Electronic rotating machine to give running effect to strips lights & miniature lights upto a load of 5000 W either mechanical cum electrical or electronics complete with mains & Switchgears with continuous earth wire and dismantling upto three days.	Each	321	129	450
14-1-15	Temporary illumination wrapping of coloured gelatin paper to 36/40 W, fluorescent tube light/500 W flood light fitting complete with rubber boards and dismantling upto three days.	Each	6	1	7
14-1-16	Providing oscillating type pedestal air circulators 600/900 mm or air cooler connected with necessary mains, Switchgears with continuous earthing maintaining the same during the function & including dismantling upto three days.	Each	349	13	362
14-1-17	Providing oscillating type pedestal fan 16" (400 mm) or ceiling fan connected with necessary mains, Switchgears with continuous earthing maintaining the same during the function & including dismantling upto three days.	Each	157	13	170
14-1-18	Providing evaporator air cooler connected with necessary mains, Switchgears with continuous earthing maintaining the same during the function & including dismantling upto three days.	Each	389	39	428
14-1-19	Providing heavy duty Exhaust fan 18" or 24" connected with necessary mains, Switchgears with continuous earthing maintaining the same during the function and including dismantling for three days.	Each	352	64	416

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
14-1-20	Providing temporary plug point with 3 pin 6A/16A with necessary mains & Switchgears & continuous earth connection upto three days.	Each	19	14	33
14-1-21	Providing 1.5 Ton capacity window Air conditioning unit complete with temporary frame and fabrication work and required material to achieve cooling temperature connected along with necessary mains, switchgear and continuous earthing maintaining the same during the function and including dismantling; for three days.	Each	2990	690	3680
14-1-22	Providing 280 liters capacity Refrigerator complete with M.S. stand if necessary connected with main switchgear and continuous earthing maintaining the same during the function and including dismantling; for three days.	Each	658	129	787
14-1-23	Providing 120/150 liter capacity water cooler with water filter (Candle type or UV tube) with M.S. stand complete with minor plumbing work if necessary connected with mains switchgear and continuous earthing maintaining the same during the function and including dismantling; for three days.	Each	1135	515	1650
14-1-24	Providing 20"/24" colour Television with multi channel tuner, connected with necessary mains switchgear with continuous earthing maintaining the same during the function and including dismantling; for three days.	Each	323	83	406
14-1-25	Providing 6V/10V with 20/40 Watt fluorescent emergency lamp connected with necessary mains switchgear and continuous earthing maintaining the same during the function and including dismantling; for three days.	Each	164	6	170
14-1-26	Providing Digital projector with spring loaded white screen connected with necessary mains, switchgear and maintaining the same during the function including dismantling.	Each	5794	115	5909
14-1-27	Temporary illumination consisting of Round LED/ neon flex LED/ flexible strip LED having 2 to 5 W capacity per meter and consisting suitable power adaptor with mains, Switchgears erected and dismantled without using scaffolding and maintaining the same upto 3 days	M	7	7	14
14-1-28	Temporary illumination consisting of Round LED/ neon flex LED/ flexible strip LED having 2 to 5 W capacity per meter and consisting suitable power adaptor with mains, Switchgears erected and dismantled with using scaffolding and maintaining the same upto 3 days	M	7	9	16

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
14-1-29 (New)	Providing & maintaining temporary 2 Ton capacity split type Air conditioning unit complete with temporary stand and fabrication work and required material to achieve cooling temperature connected along with necessary mains, switchgear and continuous earthing maintaining the same during the function and including dismantling. for three day.	Each	5378	880	6258
14-1-30 (New)	Providing & maintaining temporary 2 Ton capacity window type Air conditioning unit complete with temporary stand and fabrication work and required material to achieve cooling temperature connected along with necessary mains, switchgear and continuous earthing maintaining the same during the function and including dismantling; for three day.	Each	3751	690	4441
14-1-31 (New)	Providing & maintaining temporary 1.5 Ton capacity split type Air conditioning unit complete with temporary stand and fabrication work and required material to achieve cooling temperature connected along with necessary mains, switchgear and continuous earthing maintaining the same during the function and including dismantling for three day.	Each	4476	880	5356
14-1-32 (New)	Providing & maintaining temporary 3.5 Ton capacity Tower type Air conditioning unit complete with temporary stand and fabrication work and required material to achieve cooling temperature connected along with necessary mains, switchgear and continuous earthing maintaining the same during the function and including dismantling for three day.	Each	14591	1070	15661
14-1-33 (New)	Providing & maintaining temporary 4.5 Ton capacity Tower type Air conditioning unit complete with temporary stand and fabrication work and required material to achieve cooling temperature connected along with necessary mains, switchgears and continuous earthing, maintaining the same during the function and including dismantling for three day.	Each	16476	1070	17546
14-1-34 (New)	Providing & maintaining LCD/LED Colour T.V. (32" to 42" size) & positioning at at site with required cabling as per direction of authority, duly connecting & testing for three days.	Each	1040	83	1123

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
14-1-35 (New)	Providing, maintaining and operating Public address system on hire consisting 02 Nos. Solid state heavy wattage amplifier 250 watts (one for working and another for stand by emergency) working on AC / generator and 24 volt car battery supply, 06 Nos. of matching of 100 volt line (200 watts) box type speakers/sound column, 02 Nos super Sensitive microphone with suitable size of microphone holding stand. The system shall be in a fully automatic change over operation in case of failure of supply for one day.	Job	6401	1956	8357
14-1-36 (New)	Providing & maintaining additional Box type speaker of 100 Volt line (100 watts) for one days.	Each	276	64	340
14-1-37 (New)	Providing and maintaining cordless (Hand type or lape type) super sensitive HUF microphone (1 no stand by) for one days.	Each	2521	27	2548
14-1-38 (New)	Providing, maintaining and operating on finger tip switcher of 8 ways to operate the public address system between dias and participants in the hall with necessary cabling, wiring etc for one days.	Each	467	1655	2122
14-1-39 (New)	Providing & maintaining All in one Desktop PC with following configuration Intel TM second generation core i3 G630, 2GB DDR3 RAM, 1TB HARD DISK, DVDR W optical drive 20" LED screen, Web camera, wifi, bluetooth, keyboard & mouse, Media card reader etc for three day.	Each	1055	209	1264
14-1-40 (New)	Providing & maintaining Laser Printer , Resolution (in dpi) Mono 600, paper size A4, print speed in PPM (A4 size) 25, Port : 1 USB, Memory (in MB): NA Network card 10/100:YES, Duplexing: YES etc on hire basis for three day.	Each	281	66	347
14-1-41 (New)	Providing & maintaining 1 KVA, On line UPS pure sine wave on hire basis suitable for 30 minutes battery backup to provided computer with necessary interconnecting cabling, wiring etc for three days.	Each	2503	71	2574
14-1-42 (New)	Providing & maintaining 600 VA Digital Pure Sine wave Invertor based on IGBT technology on hire basis suitable for 120 minutes battery backup to electrical installation with necessary interconnecting cabling, wiring etc for one days.	Each	449	91	540

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
14-1-43 (New)	Providing & maintaining 1400 VA Digital Pure Sine wave Invertor based on IGBT technology on hire basis suitable for 120 minutes battery backup to electrical installation with necessary interconnecting cabling, wiring etc for one days.	Each	841	110	951
14-1-44 (New)	Providing & maintaining 2500 VA Digital Pure Sine wave Invertor based on IGBT technology on hire basis suitable for 120 minutes battery backup to electrical installation with necessary interconnecting cabling, wiring etc for one days.	Each	1783	129	1912
14-1-45 (New)	Temporary illumination Consisting of LED flood light fitting 100w to 115w Metal Halide Flood light fitting 250watt complete erected with lamp,holders, mains,switchgears with continuous earth wire erected & dismantled without using Scaffolding upto Three days	Each	980	60	1040
14-1-46 (New)	Temporary Illumination Consisting of LED flood light fitting 100w to 115w Metal Halide Flood light fitting 250watt complete erected with lamp,holders, mains,switchgears with continuous earth wire erected & dismantled with using Scaffolding upto Three days	Each	980	75	1055
14-1-47 (New)	Providing Temporary Plug point with 3 phase industrial socket having CRCA sheet metal enclosure with 30A, 3 pin plug & earth socket and 30A, 3 pin, plug top with 30A, triple pole MCB, mains,switchgears with continuous earth wire upto three days	Each	110	14	124
14-1-48 (New)	Providing Temporary PVC Armoured Cable 4 core 50 sq mm Aluminium conductor with continuous 12 SWG G.I. Earth wire complete erected with gland and lugs and switchgears upto three days	M	4	19	23
14-1-49 (New)	Providing Temporary PVC Armoured Cable 4 core 95 sq mm Aluminium conductor with continuous 10 SWG G.I. Earth wire complete erected with gland and lugs and switchgears upto three days	M	7	21	28
14-1-50 (New)	Providing Temporary PVC Armoured Cable 3.5 core 150 sq mm Aluminium conductor with continuous 8 SWG G.I. Earth wire complete erected with gland and lugs and switchgears upto three days	M	9	35	44
14-1-51 (New)	Providing Temporary PVC Armoured Cable 3.5 core 240 sq mm Aluminium conductor with continuous 8 SWG G.I. Earth wire complete erected with gland and lugs and switchgears upto three days	M	19	41	60

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
14-1-52 (New)	Providing Temporary PVC Armoured Cable 3.5 core 300 sq mm Aluminium conductor with continuous 8 SWG G.I. Earth wire complete erected with gland and lugs and switchgears upto three days	M	23	48	71
14-1-53 (New)	Providing Temporary PVC Armoured Cable 3.5 core 400 sq mm Aluminium conductor with continuous 8 SWG G.I. Earth wire complete erected with gland and lugs and switchgears upto three days	M	30	48	78
14-1-54 (New)	Temporary Illumination Consisting of water proof LED Par Light, 54 pieces with RGBW Controller complete erected with mains,switchgears with continuous earth wire erected & dismantled without using Scaffolding upto Three days	Each	1150	60	1210
14-1-55 (New)	Temporary Illumination Consisting of water proof LED Par Light, 54 pieces with RGBW Controller complete erected with mains,switchgears with continuous earth wire erected & dismantled with using Scaffolding upto Three days	Each	2217	75	2292
14-1-56 (New)	Temporary Illumination Consisting of water proof HMI Par Light, 4000 watts complete erected with mains,switchgears with continuous earth wire erected & dismantled without using Scaffolding upto Three days	Each	4763	129	4892
14-1-57 (New)	Temporary Illumination Consisting of water proof HMI Par Light, 4000 watts complete erected with mains,switchgears with continuous earth wire erected & dismantled with using Scaffolding upto Three days	Each	4953	207	5160
14-1-58 (New)	Providing, commissioning & maintaining CCTV system with 8 chanel NVR , IP video/audio input - 1 no, IP based 2.0 MP, Full HD, IR IP Dome Camra - 2 nos, IP based 2.0 MP, Full HD, IR IP PTZ camera - 2 nos, 2TB Hard Disk - 2 no, 32" Full H D professional Display - 1 no, 8 port PoE Switch - 1 no, Power supply unit to camera - 1 no, On Line UPS UPS - 1 no with necessary mains, switchgears on hire basis for one day	Job	9601	2576	12177
14-1-59 (New)	Providing, commissioning & maintaining additional IP based 2.0 MP, Full HD, IR IP Dome Camra in existing CCTV system with necessary mains, switchgears on hire basis for one day.	Each	736	207	943

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
14-1-60 (New)	Providing, commissioning & maintaining additional IP based 2.0 MP, Full HD, IR IP PTZ camera in existing CCTV system with necessary mains, for one dayswitchgears on hire basis for one day.	Each	2380	412	2792
14-1-61 (New)	Temporary illumination consisting of LED Rope Light having 2 to 5 W capacity per meter and consisting suitable power adaptor with mains, Switchgears erected and dismantled without using scaffolding and maintaining the same upto 3 days	M	10	7	17
14-1-62 (New)	Temporary illumination consisting of LED Rope Light having 2 to 5 W capacity per meter and consisting suitable power adaptor with mains, Switchgears erected and dismantled with using scaffolding and maintaining the same upto 3 days	M	9	13	22

Note:- 1) For item no.14.1.1 to 14.1.25 & 14.1.27 to 14.1.28 the rates are for the period of 3 days function which includes preparatory period with testing & connecting, commissioning & maintaining in healthy condition with transportation.

2) For each additional day after 3 days but not exceeding 15 days, add 25% per day.

3) For additional (ie after for 3+15) days, add 5% per day but total rental charges shall be limited to 80% of full rate of completed item.

4) For item no. 14.1.26 the rates of projector for 1 function or for max. period of 1 day whichever is more, including transportation, connections with projector, operator till completion of function.

5) Cartridge refilling is not added in the cost of Item no.14-1-40. Rs300/- shall be added for each cartridge refilling.

6) Rate for Item no 14-1-34 to 14-1-38, 14-1-42 to 14-1-44, 14-1-58 to 14-1-60, is for one day only . For next five days the rate shall be reduced by 10% of the first day . From 7th to 15th Days rate shall be reduced by 50% of first day. From 16th to 30th day rates shall be reduced by 75 % of first day

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
14.2 Hiring of Generators (TE-DG)					
14-2-1	Rental charges for supplying & maintaining 415V, 50 cycles A. C. generating set 125 kVA capacity with necessary fuel, mains Switchgears and accessories complete with continuous running on load/no load as per requirements complete with self certification.	Per Day	16689	1531	18220
14-2-2	Rental charges for supplying & maintaining 415V, 50 cycles A. C. generating set 75 to 100 kVA capacity with necessary fuel, mains Switchgears and accessories complete with continuous running on load/no load as per requirements complete with self certification.	Per Day	11715	1531	13246
14-2-3	Rental charges for supplying & maintaining 415V, 50 cycles A. C. generating set 50/62.5 kVA capacity with necessary fuel, mains Switchgears and accessories complete with continuous running on load/no load as per requirements complete with self certification.	Per Day	9167	1531	10698
14-2-4	Rental charges for supplying & maintaining 415V, 50 cycles A. C. generating set 25 to 40 kVA capacity with necessary fuel, mains Switchgears and accessories complete with continuous running on load/no load as per requirements complete with self certification.	Per Day	6733	1531	8264
14-2-5	Rental charges for supplying & maintaining 415V, 50 cycles A. C. generating set 11 to 25 kVA (excluding 25 kVA) capacity with necessary fuel, mains Switchgears and accessories complete with continuous running on load/no load as per requirements complete with self certification.	Per Day	6071	1354	7425
14-2-6	Rental charges for supplying & maintaining 230/415 V, 50 cycles A.C. generating set 3 to 10 kVA capacity with necessary fuel, mains Switchgears and accessories complete with continuous running on load/no load as per requirements complete with self certification.	Per Day	3700	1176	4876
14-2-7	Rental charges for supplying & maintaining 230V, 50 cycles A. C. generating set 1 to 2 kVA capacity with necessary fuel, mains Switchgears and accessories complete with continuous running on load/no load as per requirements complete with self certification.	Per Day	1492	999	2491

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
14-2-8 (New)	Rental charges for supplying & maintaining 415V, 50 cycles A. C. generating set 250 kVA capacity with necessary fuel, mains Switchgears and accessories complete with continuous running on load/no load as per requirements complete with self certification.	Per Day	31989	1644	33633
14-2-9 (New)	Rental charges for supplying & maintaining 415V, 50 cycles A. C. generating set 320 kVA capacity with necessary fuel, mains Switchgears and accessories complete with continuous running on load/no load as per requirements with necessary certificate from Electrical Inspector.	Per Day	41152	1644	42796
14-2-10 (New)	Rental charges for supplying & maintaining 415V, 50 cycles A. C. generating set 500 kVA capacity with necessary fuel, mains Switchgears and accessories complete with continuous running on load/no load as per requirements with necessary certificate from Electrical Inspector.	Per Day	57189	1644	58833

- Note:-**
- 1) Above rates are applicable for First day. For subsequent five days, the above rate shall be reduced by 10%
 - 2) The above rates are inclusive of transportation.
 - 3) The above note does not include preparatory and testing period, and no additional amount shall be paid for that.
 - 4) The above rates are with on load working of DG set upto 5 hours per day. For additional working hours exceeding average 5 hours per day cost of diesel shall be considered as per actual.
 - 5) Lumpsum provision for the additional fuel (if D G set is to be used for more than five hours) shall be made as a separate item in the estimate of temporary D G Set. (Fuel payment shall be made on the basis of actual consumption & invoice produced by Contractor.

Chapter 15
SIREN (SRN)

15.1 Siren & Accessories

(SRN-SRN)

Chapter 15 : SIREN (SRN)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>15.1 Siren & Accessories (SRN-SRN)</u>					
15-1-1	Deleted				
15-1-2	Dismantling the existing Siren motor from the location lowering from terrace to ground and loading and unloading for workshop.	Each	0	664	664
15-1-3	Transportation of siren motor from site to workshop and back. (For Municipal Corporation Area Only)	Per Km	0	55	55
15-1-4	Re-erecting the siren motor duly lifting at site and connected with assembly of existing siren by proper alignment, testing and giving test trial as original	Each	0	638	638
15-1-5	Scrapping the existing paint of outer surface, cleaning the surface & applying two coats of epoxy air dry paint (anticorrosive) of approved colour mixed in special type thinner complete. As per specification No. SRN-AS/PTG	Each	993	293	1286
15-1-6	Supplying and fixing superior quality metallastic antivibration rubber mounting to Siren.	Each	687	43	730
15-1-7	Replacing the existing unservicable worn-out bearing by new 'SKF' bearings for heavy duty Siren motor.	Each	847	171	1018
15-1-8	Scrapping existing paint of Siren motor, blower and iron foundation completely and painting the same by one coat of red oxide and two coats of approved color superior quality epoxy paint .	Each	513	343	856
15-1-9	Supplying & erecting of 8 km. range Siren 440 Volts 3 phase horizontal double mounting type 5 H.P. 2800 RPM 50 cycles A.C. with adjustable foundation. As per specification no. SRN-AS/SM	Each	72153	1276	73429
15-1-10	Supplying & erecting of 3.25 km range Siren single phase 220/250 Volts Horizontal double mounting type 1/2 HP 6000 RPM 50 cycles A.C. complete with adjustable foundation. As per specification no. SRN-AS/SM	Each	13218	981	14199
15-1-11	Providing in position C.C. foundation (1:2:4) with plastering for Siren motor of size 60 cm X 60 cm X 20 cm. with foundation nuts and bolts of required size & strength of the terrace of the building with 1.2 cm thick hard rubber sheet packing provided in between the foundation and motor base to minimise the jerks and vibration to the slab with teak wood frame etc.	Each	1142	343	1485

Chapter 16

Civil Work (CW)

16.1 Excavation	(CW-EXN)
16.2 Masonary Work	
16.3 C.C. Foundation	
16.4 Painting	(CW-PTG)
16.5 Plumbing	(CW-PLB)
16.6 Plumbing Accessories	

Chapter : 16 Civil Work (CW)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>16.1 Excavation (CW-EXN)</u>					
16-1-1	Making trench in soft soil of suitable width and depth as per IS for laying provided L.T cable up to 25 sq mm complete. As per specification No. CW-EXN-CTR	m	58	110	168
16-1-2	Making the trench in Hard murum/Tar road of suitable width and depth as per IS for laying provided L.T cable up to 10 sq.mm.complete. As per specification No. CW-EXN-CTR	m	58	146	204
16-1-3	Making the trench in Hard murum/Tar road of suitable width and depth as per IS for laying provided L.T cable of 25 sq mm & above and covered with Half round hume pipe complete. As per specification no. CW-EXN-CTR	m	182	146	328
16-1-4	Making the trench in soft soil of suitable width and depth as per IS for laying provided L.T cable of 25 sq mm & above and covered with Half round hume pipe complete. As per specification no. CW-EXNCTR	m	182	110	292
16-1-5	Excavating hard Rock or bituminous road (B.T.) by chiseling for preparing pit for poles stay or earth plates or for laying cables, pipes & clearing the site by removing debris & making the site good.	m ³	0	1023	1023
16-1-6	Excavating Hard Murum/metal road (B.T.) by chiseling for preparing pit for poles stay or earth plates or for laying cables, pipes & clearing the site by removing debris & making the site good.	m ³	0	256	256
16-1-7	Excavating soft Murum/Soil road by chiseling for preparing pit for poles stay or earth plates or for laying cables, pipes & clearing the site by removing debris & making the site good.	m ³	0	219	219
Note:-	<p>1) For use of <u>additional bricks between and above cables</u>, for additional cable laid by the side in same trench, add Rs. 60/- per meter</p> <p>2) For cables upto 25 sq. mm in item no 16-1-2, bricks be laid on the cable width & overall rate shall be increased by Rs. 30/- per meter.</p> <p>3) Reduce rate by Rs. 20/- per meter in case riddled soil is used instead of screened sand bed.</p>				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>16.2 Masonry Work</u>					
16-2-1	Providing transformer plinth 1.5 x 1.5 x 1.5 m in size with necessary excavation in ground at the bottom with 150 mm. thick M- 10 PCC at the bottom and top and 250 mm. thick burnt brick wall constructed at periphery and remaining hollow portion shall be filled with 60mm Hard broken aggregate, external surface duly plastered 15 mm thick including watering etc. complete.	Each	10133	4688	14821
Note:-	The above rates are for 1.2 meter height plinth above ground level, if excess height is required to maintain ground clearance as per CEA regulations add Rs. 820/- for every 100 mm.				
16-2-2	Providing burnt brick masonry with 1:6 ratio cement concrete duly plastered including watering, streaking joint on exposed faces, rocking at joint on exposed faces and watering complete.	m ³	4341	750	5091
16-2-3	Supplying & arranging burnt cured Bricks properly for various purposes (size 9"x4.25"x3") at work for 100 Bricks	Job	632	73	705
16-2-4	Providing and spreading stone metal 25 mm size for 100 mm depth above the ground level.	m ³	58	18	76
16-2-5	Deleted				
16-2-6	Supplying and erecting RCC chamber cover of size 750 mm x 750 mm x 50mm thick with lifting arrangement including laying of angle iron frame of angle size as 50 x 50 x 6 mm to be fixed / embedded on top of chamber	Each	3166	169	3335
<u>16.3 C.C. Foundation</u>					
16-3-1	Providing cement concrete foundation including excavation for the poles (45 cm x 45 cm x 1.2 m) deep in 1:3:6 cement concrete (20 to 25 mm stone metal) and 45 cm x 45 cm x 45 cm / 45 cm dia. x 45 cm height plinth duly plastered and with necessary curing and finishing in an approved manner. (for 6 m pole)	Each	1244	244	1488
16-3-2	Providing cement concrete foundation including excavation for the poles 60 cm x 60 cm x 1.5 m deep in 1:3:6 cement concrete (20 x 25 mm stone metal) and 45 cm x 45 cm x 45 cm / 45 cm dia. x 45 cm height plinth duly plastered and with necessary curing and finishing in an approved manner. (for 8.5 to 9 m poles)	Each	2764	244	3008

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
16-3-3	Providing cement concrete foundation including excavation for the poles 60 cm x 60 cm x deep 1/6 of pole length in 1:3:6 cement concrete (20 x 25 mm stone metal) and 45 cm x 45 cm x 45 cm /45 cm dia. x 45 cm. height plinth duly plastered and with necessary curing and finishing in an approved manner. (for above 9 m poles)	Each	3317	244	3561
16-3-4	Providing Cement concrete foundation for pump in 1:2:4 with required size and length of foundation bolts and nuts (cost with wooden box is included).	m ³	4844	891	5735
16-3-5	Providing Cement Concrete foundation including excavation for stay 60 cm x 60 cm x 1.5 m deep in 1:3:6 cement concrete (20x25mm stone metal) with necessary curing and finishing in an approved manner.	Each	2482	365	2847
16-3-6	Providing cement concrete for foundation or for concrete filling in 1:3:6 ratio with 20 to 25 mm. stone metal duly plastered with necessary curing for pole muffing or any other purposes.	m ³	3988	849	4837
16-3-7	Providing & casting of M- 20 grade reinforced cement concrete (RCC) foundation suitable for 3m to 5m high octagonal / conical G.I. pole considering the safe soil bearing capacity at site as 10 T/sq m at 1.5 m depth including supply of steel, concrete, excavation and fixing provided nut bolts with the help of template as per design in an approved manner.	Each	3539	661	4200
16-3-8	Providing & casting of M- 20 grade reinforced cement concrete (RCC) foundation suitable for 6m to 8m high octagonal /conical G.I. pole considering the safe soil bearing capacity at site as 10 T/sq m at 1.5 m depth including supply of steel, concrete, excavation and fixing provided nut bolts with the help of template as per design in an approved manner.	Each	5905	1003	6908
16-3-9	Providing & casting of M- 20 grade reinforced cement concrete (RCC) foundation suitable for 9m & 10m high octagonal /conical G.I. pole considering the safe soil bearing capacity at site as 10 T/sq m at 1.5 m depth including supply of steel, concrete, excavation and fixing provided nut bolts with the help of template as per design in an approved manner.	Each	7781	1328	9109
16-3-10	Providing & casting of M- 20 grade reinforced cement concrete (RCC) foundation suitable for 11m & 12.5m high octagonal /conical G.I. pole considering the safe soil bearing capacity at site as 10 T/sq m at 1.5 m depth including supply of steel, concrete, excavation and fixing provided nut bolts with the help of template as	Each	11571	2005	13576

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	per design in an approved manner				
16-3-11	Providing & casting M- 20 cement concrete foundation suitable for 12.5 m raising lowering high mast considering the safe soil bearing capacity at site as 10 T/sq m at 2 m depth including excavation and fixing provided nut bolts with the help of template as per design in an approved manner.	Each	26663	12477	39140
16-3-12	Providing & casting M- 20 cement concrete foundation suitable for 16 m raising lowering high mast considering the safe soil bearing capacity at site as 10 T/sq m at 2 m depth including excavation and fixing provided nut bolts with the help of template as per design in an approved manner	Each	34843	13778	48621
16-3-13	Providing & casting M- 20 cement concrete foundation suitable for 20 m raising lowering high mast considering the safe soil bearing capacity at site as 10 T/sq m at 2 m depth including excavation and fixing provided nut bolts with the help of template as per design in an approved manner.	Each	44597	15931	60528
16-3-14	Providing & casting M- 20 cement concrete foundation suitable for 25 m high mast considering the safe soil bearing capacity at site as 10 T/sq m at 2 m depth including excavation and fixing provided nut bolts with the help of template as per design in an approved manner.	Each	55341	18959	74300
<u>16.4 Painting (CW-PTG)</u>					
16-4-1	Scrapping existing paint & Spray painting the table fan / pedestal fan / cabin fan / ceiling fan / exhaust fan including guards etc As per specification No. CW-PTG/PTF	Each	66	73	139
16-4-2	Scrapping the existing paint and painting of pipe pole upto 6 m length along with street light / pole brackets / clamps completely as per specification No CW -PTG/PTP.	m	24	37	61
16-4-3	Scrapping the existing paint and painting of steel tubular / rail / RSJ pole above 6.0 m length along with street light / pole brackets / clamps completely as per specification No CW -PTG/PTP.	m	28	55	83
16-4-4	Scrapping existing paint & Spray painting of fluorescent fitting with flat reflector for 1x4' FTL completely. As per specification No. CWPTG/ PFT	Each	29	55	84
16-4-5	Scrapping existing paint & Spray painting of fluorescent fitting with flat reflector for 2x4' FTL completely. As per specification No. CWPTG/ PFT	Each	38	55	93

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
16-4-6	Spray Painting of Panel type lift doors of MS complete. As per specification no. CW-PTG/PLD1	Each	453	467	920
16-4-7	Painting lift door of collapsible type complete. As per specification No. CW-PTG/PLD2	Each	356	389	745
16-4-8	Spray painting of distribution transformer upto 200 kVA capacity complete. As per specification No. CW-PTG/PDT	Job	1453	1089	2542
16-4-9	Spray painting of distribution transformer above 200 kVA capacity complete. As per specification No. CW-PTG/PDT	Job	2289	1244	3533
16-4-10	Painting fencing of transformer sub station including all supports, iron work and doors from both sides with one coat of red oxide & two coats of aluminium paint, in an approved manner as per direction.	m ²	79	37	116
16-4-11	Scrapping existing paint of feeder pillar / switchgears and frame of panel board completely without damaging and painting the same with single coat of Red oxide & two coats of approved quality enamel paint in an approved manner. (The square meter area of angle iron frame on which the switchgears are erected shall be considered for measurement purpose)	m ²	181	78	259
16-4-12	Providing powder coating of approved color shade on both sides of provided iron work / MS / CRCA sheet steel work complete including anti-rust treatment in an approved manner.	m ²	239	156	395
16-4-13	Providing Epoxy painting on both side of approved color shade of provided iron work / MS / CRCA sheet steel work complete along with anti-rust treatment in an approved manner.	m ²	452	104	556
16-4-14	Painting identification number on fittings / equipments with removal and refitting of covers, tubes etc. if required, by marker of indelible ink / enamel paint with the help of ladders, if necessary.	Each	1	7	8
16-4-15	Scrapping existing paint & Spray painting of Industrial type fluorescent fitting with flat reflector for 2x4' FTL completely. As per specification No. CW-PTG/PFT	Each	58	49	107
Note:-	For Item no. 16-4-10, 16-4-11 if painting is to be done from both sides, double the rate per sq.m for both sides of painting.				
<u>16.5 Plumbing (CW-PLB)</u>					
16-5-1	Supplying and erecting G.I.pipe 15 mm dia. 'B' class at position with accessories. As per specification No. CW-PLB/GP	m	123	42	165

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
16-5-2	Supplying and erecting ISI mark G.I.pipe 20 mm dia. 'B' class at position with accessories. As per specification No. CW-PLB/GP	m	164	42	206
16-5-3	Supplying and erecting ISI mark G.I.pipe 25 mm. dia. 'B' class at position with accessories. As per specification no. CW-PLB/GP	m	227	57	284
16-5-4	Supplying and erecting ISI mark G.I.pipe 32 mm dia. 'B' class at position with accessories. As per specification No. CW-PLB/GP	m	299	57	356
16-5-5	Supplying and erecting ISI mark G.I.pipe 40 mm. dia. 'B' class at position with accessories. As per specification No. CW-PLB/GP	m	325	71	396
16-5-6	Supplying and erecting ISI mark G.I.pipe 50 mm dia. 'B' class at position with accessories. As per specification No. CW-PLB/GP	m	491	71	562
16-5-7	Supplying and erecting ISI mark G.I.pipe 65 mm. dia. 'B' class at position with accessories. As per specification No. CW-PLB/GP	m	655	99	754
16-5-8	Supplying and erecting ISI mark G.I.pipe 75/80 mm dia. 'B' class at position with accessories. As per specification No. CW-PLB/GP	m	842	113	955
16-5-9	Supplying and erecting ISI mark G.I.pipe 100 mm dia. 'B' class at position with accessories. As per specification No. CW-PLB/GP	m	1260	127	1387
16-5-10	Supplying and erecting ISI mark G.I. pipe 32 mm. dia 'C' class at position with accessories. As per specification No. CW-PLB/GP	m	368	57	425
16-5-11	Supplying and erecting ISI mark G.I. pipe 40 mm. dia 'C' class at position with accessories. As per specification No. CW-PLB/GP	m	416	71	487
16-5-12	Supplying and erecting ISI mark G.I. pipe 50 mm. dia 'C' class position with accessories. As per specification No. CW-PLB/GP	m	622	71	693
16-5-13	Supplying and erecting ISI mark G.I. pipe 65 mm. dia 'C' class position with accessories. As per specification No. CW-PLB/GP	m	829	91	920
16-5-14	Supplying and erecting ISI mark G.I. pipe 75/80 mm dia 'C' class position with accessories. As per specification No. CW-PLB/GP	m	1121	113	1234
16-5-15	Supplying and erecting ISI mark G.I. pipe 100 mm dia 'C' class position with accessories. As per specification No. CW-PLB/GP	m	1678	127	1805
16-5-16	Supplying and erecting high density polythene pipe ISI mark 32 mm dia. suitable for pressure of 6 kg/cm ² connected to Jet/Submersible pump	m	49	28	77

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	with required material complete.				
16-5-17	Supplying and erecting high density polythene pipe ISI mark 40 mm dia. suitable for pressure of 6 kg/cm ² connected to Jet/Submersible pump with required material complete.	m	84	28	112
16-5-18	Supplying and erecting high density polythene pipe ISI mark 50 mm. dia. suitable for pressure of 6 Kg. / Cm ² connected to Jet/Submersible pump with required material complete.	m	119	28	147
	<u>16.6 Plumbing Accessories</u>				
16-6-1	Supplying and erecting 25mm dia. Gun metal foot valve position with necessary materials.	Each	374	85	459
16-6-2	Supplying and erecting 40mm dia. Gun metal foot valve at position with necessary materials.	Each	803	85	888
16-6-3	Supplying and erecting 50mm dia. Gun metal foot valve at position with necessary materials.	Each	1046	113	1159
16-6-4	Supplying and erecting 65mm dia. Gun metal foot valve at position with necessary materials.	Each	2020	113	2133
16-6-5	Supplying and erecting 75/80mm dia. Gun metal foot valve at position with necessary materials.	Each	2650	141	2791
16-6-6	Supplying and erecting 100mm dia. Gun metal foot valve at position with necessary materials.	Each	4008	141	4149
16-6-7	Supplying and erecting 25mm dia. cast iron foot valve at position with necessary materials.	Each	231	85	316
16-6-8	Supplying and erecting 40mm dia. cast iron foot valve at position with necessary materials.	Each	432	85	517
16-6-9	Supplying and erecting 50mm dia. cast iron foot valve at position with necessary materials.	Each	534	113	647
16-6-10	Supplying and erecting 65mm dia. cast iron foot valve at position with necessary materials.	Each	930	113	1043
16-6-11	Supplying and erecting 75/80mm dia. cast iron foot valve at position with necessary materials.	Each	1385	141	1526
16-6-12	Supplying and erecting 100mm dia. cast iron foot valve at position with necessary materials.	Each	3028	141	3169
16-6-13	Supplying and erecting 25mm dia. gun metal sluice valve at position with necessary materials.	Each	806	85	891
16-6-14	Supplying and erecting 40 mm. dia. gun metal sluice valve at position with necessary materials	Each	1629	85	1714
16-6-15	Supplying and erecting 50mm dia. gun metal sluice valve at position with necessary materials.	Each	2345	113	2458
16-6-16	Supplying and erecting 65mm dia. gun metal sluice valve at position with necessary materials.	Each	4364	113	4477
16-6-17	Supplying and erecting 75/80mm dia. gun metal sluice valve at position with necessary materials.	Each	6309	141	6450

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
16-6-18	Supplying and erecting 100mm dia. gun metal sluice valve at position with necessary materials.	Each	12383	141	12524
16-6-19	Supplying and erecting Non return valve 25mm dia in position made of gun metal	Each	482	85	567
16-6-20	Supplying and erecting Non return valve 40mm dia in position made of gun metal.	Each	975	99	1074
16-6-21	Supplying and erecting Non return valve 50mm dia in position made of gun metal.	Each	1455	113	1568
16-6-22	Supplying and erecting Non return valve 65mm dia in position made of gun metal.	Each	3425	113	3538
16-6-23	Supplying and erecting Non return valve 75/80mm dia in position made of gun metal.	Each	4454	141	4595
16-6-24	Supplying and erecting Non return valve 100mm dia in position made of gun metal.	Each	8501	141	8642
16-6-25	Supplying and erecting C.I. flange 25mm dia with necessary nuts bolts and washers with rubber seal in position.	Each	132	28	160
16-6-26	Supplying and erecting C.I. flange 40mm dia with necessary nuts bolts and washers with rubber seal in position.	Each	143	28	171
16-6-27	Supplying and erecting C.I. flange 50mm .dia with necessary nuts bolts and washers with rubber seal in position.	Each	162	42	204
16-6-28	Supplying and erecting C.I. flange 65mm . dia with necessary nuts bolts and washers with rubber seal in position.	Each	216	42	258
16-6-29	Supplying and erecting C.I. flange 75/80mm . dia with necessary nuts bolts and washers with rubber seal in position.	Each	389	48	437
16-6-30	Supplying and erecting C.I. flange 100mm . dia with necessary nuts bolts and washers with rubber seal in position.	Each	410	48	458
16-6-31	Supplying and erecting 0-100 lb/sq. inch pressure gauge having 4" dia complete with socket for 1/2" G.I. pipe.	Each	689	69	758
16-6-32	Supplying and erecting 40mm dia. ball type foot valve having C.I. body lined from inside with FRP and synthetic rubber coated reinforced) /Nitrile Rubber ball, leaded fin bronze (IS:318) FRP sheet, carbon steel (IS:1363 class 4) fastners, C.I./M.S.Stainer Complete	Each	1143	113	1256
16-6-33	Supplying and erecting 50mm dia. ball type foot valve having C.I. body lined from inside with FRP and synthetic rubber coated (reinforced)/Nitrile Rubber ball, leaded fin bronze (IS:318) FRP sheet, carbon steel (IS:1363 class 4) fastners, C.I./M.S.Stainer Complete	Each	1630	113	1743

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
16-6-34	Supplying and erecting 65mm dia. ball type foot valve having C.I. body lined from inside with FRP and synthetic rubber coated (reinforced)/ Nitrile Rubber ball, leaded fin bronze (IS:318) FRP sheet, carbon steel (IS:1363 class 4) fastners, C.I./M.S.Stainer Complete	Each	2400	113	2513
16-6-35	Deleted				
16-6-36	Deleted				
Note:-	For Ball type foot valve above 65 mm refer chapter 13-7				

Chapter 17

MISCELLANEOUS (MSC)

17.1 Rewinding

17.2 Replacement

17.3 Accessories

Chapter 17: MISCELLANEOUS (MSC)

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
<u>17.1 Rewinding</u>					
17-1-1	Rewinding the motor of table / pedastal / wall bracket / cabin fans of all type and makes including minor repairs lubricating of ball bearings & bush bearing, and replacing condensor, screws etc.&testing for original speed and consumption with guarantee for 1 year including transportation from site and back	Job	394	187	581
17-1-2	Rewinding the motor of the ceiling fan 900mm of all types and makes and over hauling including minor repairs lubricating of ball bearings & bush bearing, and replacing condensor, screws etc.& testing for original speed and consumption with guarantee for one year.	Each	433	187	620
17-1-3	Rewinding the motor of the ceiling fan 1200 mm / 1400 mm of all types and makes and over hauling including minor repairs lubricating of ball bearings & bush bearing, and replacing condensor, screws etc. & testing for original speed and consumption with guarantee for one year.	Each	455	187	642
17-1-4	Rewinding the motor of the Exhaust fan 900 / 1400 RPM 300 mm of all types and makes and over hauling including minor repairs, lubricating of ball bearings & bush bearing, and replacing condensor, screws etc. & testing for original speed and consumption with guarantee for one year	Each	472	187	659
17-1-5	Rewinding the motor of the Exhaust fan 900/1400 RPM 375 mm of all types and makes and over hauling including minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. & testing for original speed and consumption with guarantee for one year	Each	572	187	759
17-1-6	Rewinding the motor of the Exhaust fan 900/1400 RPM 450 mm of all types and makes and over hauling including minor repairs, lubricating of ball bearings & bush bearing, and replacing condensor, screws etc. & testing for original speed and consumption with guarantee for one year	Each	800	252	1052
17-1-7	Rewinding of electric motor upto 1H.P. single phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing condensor, screws etc. testing for the original speed and no load consumption with guarantee for one year.	Each	895	415	1310

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
Note:-	1) Item No. 17-1-7 is for rewinding of motors other than table / pedastal / cabin / wall mounting / ceiling / Exhaust fan.				
	2) All above rewinding items are excluding of bearing replacement.				
17-1-8	Rewinding of electric motor upto 1H.P. three phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed and no load consumption with guarantee for one year	Each	1275	415	1690
17-1-9	Rewinding of electric motor upto 2 H.P. three phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed and no load consumption with guarantee for one year	Each	1711	415	2126
17-1-10	Rewinding of electric motor upto 3 H.P. three phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed and no load consumption with guarantee for one year	Each	2100	464	2564
17-1-11	Rewinding of electric motor upto 5 H.P. three phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed and no load consumption with guarantee for one year	Each	3009	855	3864
17-1-12	Rewinding of electric motor upto 7.5 H.P. three phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed and no load consumption with guarantee for one year	Each	3869	855	4724
17-1-13	Rewinding of electric motor upto 10 H.P.three phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed and no load consumption with guarantee for one year	Each	4444	892	5336

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
17-1-14	Rewinding of electric motor upto 12.5 H.P. three phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed and no load consumption with guarantee for one year	Each	4899	1076	5975
17-1-15	Rewinding of electric motor upto 15 H.P. three phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed and no load consumption with guarantee for one year	Each	5690	1076	6766
17-1-16	Rewinding of electric motor upto 20 H.P. three phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed and no load consumption with guarantee for one year	Each	7037	1272	8309
17-1-17	Rewinding of submersible pump motor in Borewell of all types and makes upto and including 5 HP with coated copper wires & overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed, H.P. and no load consumption & guarantee for one year.	H.P.	1138	686	1824
17-1-18	Rewinding of submersible pump motor in Borewell of all types and makes above 5 H.P. upto 25 H.P with coated copper wires & overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed, H.P. and no load consumption & guarantee for one year.	H.P.	1394	686	2080
17-1-19 (New)	Rewinding of electric motor upto 25 H.P. three phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed and no load consumption with guarantee for one year	Each	10148	1895	12043
17-1-20 (New)	Rewinding of electric motor upto 30 H.P. three phase upto 1400 RPM of all types and makes with copper wire, overhauling with minor repairs, lubricating of ball bearings & bush bearing, and replacing screws etc. testing for the original speed and no load consumption with guarantee for one year	Each	11960	2302	14262

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
Note:-	<p>1) Burnt ceiling fans and motor older than 10 yrs shall not be rewound.</p> <p>2) Rates for rewinding of 2 pole motors e.g. 2800/ 2900 RPM, shall be decreased by 5%.</p> <p>3) The dismantled material shall be retained by the contractor.</p> <p>4) Rates of Item No. 17-1-17 & 17-1-18 for rewinding of submersible pump in open well and water tank shall be decreased by 40%.</p>				
<u>17.2 Replacement</u>					
17-2-1	Replacing the existing bearing of approved make for electric motor A.C single phase / 3 phase upto 1 H.P. of all types with due alignment of the shaft and tested.	Each	254	86	340
17-2-2	Replacing the existing bearing of approved make for A.C electric motor 3 phase 2 H.P. to 3 H.P. of all types with due alignment of the shaft and tested.	Each	287	129	416
17-2-3	Replacing the existing bearing of approved make for electric motor 5 H.P. & 7.5 H.P. of all types with due alignment of the shaft and tested.	Each	492	137	629
17-2-4	Replacing the existing bearing of approved make for electric motor 10 H.P. & 12.5 H.P. of all types with due alignment of the shaft and tested.	Each	847	151	998
17-2-5	Replacing the existing bearing of approved make for electric motor 15H.P.to 20 H.P. of all types with due alignment of the shaft and tested.	Each	1354	343	1697
17-2-6	Replacing the existing ball bearing of table/ cabin/ pedestal/ ceiling/ exhaust fan complete with alignment of shaft & tested.	Each	151	69	220
17-2-7	Replacing the existing Bush/ rubber, ring, washers of table/ cabin/ pedestal/ ceiling/ exhaust fan complete with alignment of shaft & tested.	Each	53	49	102
17-2-8 (New)	Replacing the existing bearing of approved make for electric motor of 25 H.P. of all types with due alignment of the shaft and tested.	Each	2043	429	2472
17-2-9 (New)	Replacing the existing bearing of approved make for electric motor of 30 H.P. of all types with due alignment of the shaft and tested.	Each	2232	429	2661
Note:-	Above rates are applicable for replacement of bearing only.				

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
17.3 Accessories					
17-3-1	Filtration of Transformer oil on site till satisfactory test results.	Ltr	13	11	24
17-3-2	Supplying and topping up filtered transformer oil of approved make with test certificate.	Ltr	139	16	155
17-3-3 (New)	Supplying and erecting No-Volt-Coil similar to L&T make for motor having DOL starters of MK-1 Type upto 7.5 H.P.	Each	149	129	278
17-3-4 (New)	Supplying and erecting No-Volt-Coil similar to L&T make for motor having DOL starters of MU-1 Type from 7.5 H.P. to 10 H.P.	Each	418	129	547
17-3-5	Supplying and erecting No-Volt-Coil similar to L&T make for motor having Star-Delta Starter of type MK-1/MU for 12.5 H.P. to 15 H.P. motor.	Each	418	109	527
17-3-6	Supplying and erecting No-Volt-Coil similar to L&T make for motor having Star-Delta Starter of type ML-1.5 for 15 H.P. to 25 H.P. motor.	Each	558	109	667
17-3-7 (New)	Supplying and erecting No-Volt-Coil similar to L&T make for motor having Star-Delta Starter of type MU for 20 H.P. to 30 H.P. motor.	Each	418	129	547
17-3-8 (New)	Supplying and erecting No-Volt-Coil similar to L&T make for motor having Star-Delta Starter of type ML-2 for 25 H.P. to 35 H.P. motor.	Each	932	129	1061
17-3-9	Supplying and erecting No-Volt-Coil similar to L&T make of type MNX for 30 H.P. to 90 H.P. motor	Each	1319	114	1433
17-3-10 (New)	Supplying and erecting No-Volt-Coil similar to L&T make of type MNX for 90 H.P. to 125 H.P. motor	Each	2242	171	2413
17-3-11 (New)	Supplying and erecting thermal Overload Relay similar to L&T make for MU motor starter suitable for up to 12.5 HP	Each	1288	109	1397
17-3-12 (New)	Supplying and erecting thermal Overload Relay similar to L&T make for MK 1 motor starter suitable for up to 15 HP	Each	774	129	903
17-3-13 (New)	Supplying and erecting thermal over load relay similar to L&T make MN-2 for motor starter 10 H.P. to 17.5 H.P.	Each	1055	129	1184
17-3-14 (New)	Supplying and erecting thermal over load relay similar to L&T make MN-2 for motor starter 20 H.P. to 25 H.P.	Each	1227	129	1356
17-3-15 (New)	Supplying and erecting thermal over load relay similar to L&T make MN2 for motor starter 30 H.P to 35 H.P.	Each	1776	129	1905
17-3-16 (New)	Supplying and erecting thermal over load relay similar to L&T make MN-5 for motor starter 40 H.P. to 50 H.P.	Each	2326	143	2469

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
17-3-17 (New)	Supplying and erecting thermal over load relay similar to L&T make MN-5 for motor starter 60 H.P. to 90 H.P.	Each	3078	143	3221
17-3-18 (New)	Supplying and erecting thermal over load relay similar to L&T make MN-5 for motor starter from 100 H.P. to 125 H.P.	Each	3544	143	3687
17-3-19	Supplying & erecting similar to L&T make timer for MK-1 (For STAR/DELTA) motor starter upto 12.5 H.P.	Each	554	109	663
17-3-20	Supplying & erecting L&T make Timer with Combination Coil for ML-2 motor starter suitable from 15 H.P to 30 H.P.	Each	1904	109	2013
17-3-21	Supplying & erecting Electronic timer ST 100 similar to L&T make above 30 H.P.	Each	1266	109	1375
17-3-22 (New)	Supplying & erecting contactor MK-1 similar to L&T make for DOL motor starter from 7.5 H.P. to 10 H.P.	Each	1007	129	1136
17-3-23 (New)	Supplying & erecting contactor MU-1 similar to L&T make for DOL motor starter from 7.5 H.P. to 10 H.P.	Each	1596	129	1725
17-3-24 (New)	Supplying & erecting contactor MU-1H similar to L&T make for DOL motor starter from 7.5 H.P. to 10 H.P.	Each	1745	129	1874
17-3-25 (New)	Supplying & erecting contactor similar to L&T make for MK-2 Star Delts motor starter from 12.5 H.P. to 15 H.P.	Each	1068	78	1146
17-3-26 (New)	Supplying & erecting contactor similar to L&T make MU-2 Type for motor starter suitable from 12.5 H.P to 20 H.P.	Each	2172	129	2301
17-3-27 (New)	Supplying & erecting contactor similar to L&T make for ML-1.5 Star Delts motor starter from 15 H.P. to 25 H.P.	Each	2370	129	2499
17-3-28 (New)	Supplying & erecting contactor similar to L&T make for ML-2 Star Delts motor starter from 25 H.P. to 30 H.P.	Each	4401	129	4530
17-3-29 (New)	Supplying and erecting contactor similar to L&T make MU-3 Type for motor starter suitable from 25 H.P. to 30 H.P.	Each	2620	129	2749
17-3-30	Supplying and erecting contactor similar to L&T make MNX series for motor starter suitable for above 30 H.P. to 40 H.P.	Each	5283	81	5364
17-3-31	Supplying and erecting contactor similar to L&T make MNX series for motor starter suitable for above 45 H.P. to 50 H.P.	Each	7431	81	7512
17-3-32 (New)	Supplying and erecting contactor similar to L&T make MNX series for motor starter suitable from 55 HP to 60 HP.	Each	10349	98	10447
17-3-33 (New)	Supplying and erecting contactor similar to L&T make MNX series for motor starter suitable for 75 H.P. to 90 H.P.	Each	16456	122	16578

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
17-3-34 (New)	Supplying and erecting contactor similar to L&T make MXN series for motor starter suitable for 100 H.P. to 125 H.P.	Each	21793	146	21939
17-3-35	Dismantling the existing ceiling fan of various sizes and replacing the bolt and nuts at reel insulator and at bottom of the down rod with half threaded bolt of 3/8" dia 2-1/2" to 3-1/2" long and 5/16" dia 1-3/4" to 2-1/4" long respectively required sizes with 2 plate washers with oiling, greasing and painting the date of repair and re-erecting at position.	Each	55	86	141
17-3-36	Replacing suitable capacity motor of water pump of air cooler of any capacity and type in lieu of old one.	Each	488	86	574
17-3-37	Checking the existing Indoor faulty fitting, finding the fault, repairing by provided necessary material, if any, and putting into beneficial use with necessary Tools & Tackles.	Each	0	46	46
17-3-38	Checking the existing outdoor faulty fitting, finding the fault, repairing by provided necessary material, if any, and putting into beneficial use with necessary Tools & Tackles.	Each	0	91	91
Note :-	Follow type II Co-ordination of respective manufacturer for starter/spares solution.				

Chapter 18

Dismantled Material

18.1 Dismantled Items.

Chapter 18: DISMANTLED MATERIALS

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
	18.1 Dismantled Items				
18-1-1	PVC arm/unarm. cable & wire (Allum)	Kg	15	0	15
18-1-2	PVC arm/unarm. cable & wire (Copper)	Kg	74	0	74
18-1-3	Allum. Metallic Materials	Kg	81	0	81
18-1-4	HG / M.S / G.I. Metallic Materials / Pole etc. kg 26	Kg	26	0	26
18-1-5	Copper / Brass materials	Kg	264	0	264
18-1-6	Wooden Materials	Kg	5	0	5
18-1-7	PVC Pipe / PVC Materials	Kg	8	0	8
18-1-8	Paper Cartoons & Paper Boxes.	Kg	7	0	7
18-1-9	I.C. Switches / M.C. Switches / D.P. / D.B./ T.P. / feeder pillar etc.	Kg	19	0	19
18-1-10	All types of Meters.(Ammeter / Voltmeter etc..)	Kg	31	0	31
18-1-11	All types of O.C.B./ A.C.B / V.C.B	Each	1652	0	1652
18-1-12	All types of ceiling fan, cabin fan, Bracket fan, pedestal fan and table fan.	Each	177	0	177
18-1-13	All types of Air circulator and pedestal type Air circulator	Each	708	0	708
18-1-14	All types of Fluo. Tube Fitting	Each	25	0	25
18-1-15	All types of M.V. / M.H. Fitting / S.V. Fitting	Each	75	0	75
18-1-16	All types of Geyser up to 6 KW	Each	125	0	125
18-1-17	All types of accessories such as Tube starter / Bell / Holder/ Ceiling Rose / MCB etc.	Kg	17	0	17
18-1-18	All types of Chokes / condenser / small coils / motor starter etc.	Kg	50	0	50
18-1-19	Lift Ropes / Belt types / Appliances & equipments	Kg	26	0	26
18-1-20	All types of Hot water Boilers	Each	500	0	500
18-1-21	All types of Electric motor	HP	500	0	500
18-1-22	All types of Water pump set.	HP	452	0	452
18-1-23	All types of A.C compressor	T/R	550	0	550
18-1-24	All types of A.C. unit.(Window)	T/R	2006	0	2006
18-1-25	All types of A.C. unit.(Split)	T/R	2100	0	2100
18-1-26	All types of Indoor unit of split A.C.	Each	800	0	800
18-1-27	Copper piping of A.C.	Kg	303	0	303
18-1-28	Water cooler instant type	Each	1000	0	1000
18-1-29	Water cooler storage type	Liters	40	0	40
18-1-30	Refrigerator up to 165 ltr.	Each	1500	0	1500
18-1-31	Refrigerator above 165 ltr.	Each	2000	0	2000
18-1-32	Exhaust fan 9" sweep.	Each	140	0	140
18-1-33	Exhaust fan 12" sweep	Each	171	0	171
18-1-34	Exhaust fan 15" sweep.	Each	252	0	252
18-1-35	Exhaust fan 18" sweep	Each	360	0	360

Item No (1)	Short Description (2)	Unit (3)	Material (4)	Labour (5)	Total (6)
18-1-36	Exhaust fan 24" sweep.	Each	450	0	450
18-1-37	Air cooler of any size(Without Fan)	Each	531	0	531
18-1-38	Air cooler of any size(With Fan)	Each	830	0	830
18-1-39	Transformer Oil	Liters	10	0	10
18-1-40	D.G. Set.	KVA	750	0	750
18-1-41	Transformer	KVA	80	0	80
18-1-42	Telephone Exchange (EPABX)	Each	1150	0	1150
18-1-43	Telephone instrument	Each	50	0	50
18-1-44	Water Purifier	Each	80	0	80
18-1-45	Inverter / UPS	KVA	70	0	70
18-1-46	Voltage Stabilizer	KVA	83	0	83
18-1-47	Amplifier	Each	500	0	500
18-1-48	Mikes	Each	70	0	70
18-1-49	Storage type water Purifier	Each	92	0	92
(New)					
18-1-50	Tubular Battery	Kg	57	0	57
(New)					

Note : 1) Rates for items which are not covered in above list should be calculated on the basis of material / equipments considering it's site condition and prevailing market rates and approval should be taken from concerned Superintending Engineer (Electrical)

2) The cost of Dismantled Material as per above mentioned rates shall be deducted from the estimate to the limit of **Rs. 5,000/- (Rs. Five Thousand only)**. If the cost of dismantled material in the estimate exceeds **Rs. 5,000/- (Rs. Five Thousand only)** such material shall be retained and taken in the Dismantled Material Register.

(New) 3) As per Ministry of Environment And Forests, New Delhi Notification on Dated 16th May 2001, and all updated notifications regarding disposal of material in non-hazardous / non-polluting manner shall be followed. Declaration from the contractor for the same shall be taken while calling for tenders.