

CHAPTER - I Electric wirings

NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.

NOTE:-2 For point wiring in bathroom and W/C and washbasin area in residential quarters reduce overall rate by 50% of point wiring for light.

SECTION - 1-1 Point wiring in Copper [TISSINO]

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-1-1.	Point wiring for Light / Fan/ Bell/ Primary Point with 2-1.5 sq. mm & earth wire of 1.5 sq. mm (green) both are of ISI marked 1.1 kv grade FRLS PVC insulated multi strand copper wires upto max length of 10 mt, in below type of pipe erected with 6A Tissino Type ISI marked flush type switch / bell push and accessories erected on Metal / PVC/Wooden Box covered with 3 mm thick PC(Polycarbonate) /Acrylic/Laminated sheet. with necessary Lamp holder/ceiling rose / H.D.Connector as directed.				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete	Pt	280.00	71.00	351.00
	(b) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete	Pt.	385.00	83.00	468.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete	Pt.	250.00	47.00	297.00
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete	Pt.	266.00	60.00	326.00
	(e) in existing pipe erected flushed on wall/ceiling complete	Pt	208.00	47.00	255.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete	Pt	280.00	107.00	387.00
	(g) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected concealed in wall/ceiling complete	Pt.	385.00	119.00	504.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete	Pt.	250.00	83.00	333.00
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete	Pt.	266.00	94.00	360.00
	(j) in existing pipe erected concealed in wall/ceiling complete	Pt	208.00	83.00	291.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-1-2.	Point wiring for independent PLUG with following size mains earth wire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires upto 10 mt length, in following below of pipe erected complete with ISI marked 3 / 5 Pin socket and tissino type switch erected with earth continuity connection erected on Metal / PVC/Wooden box covered with 3 mm thick PC(Polycarbonate) / Acrylic/Laminated sheet.				
(A)	[A] For 6 amp plug and 6 amp switch with 2-1.5 sq. mm Cu. Mains from near by switchboard/db board upto 6 mt.				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete	Pt.	250.00	60.00	310.00
	(b) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete	Pt.	354.00	71.00	425.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete	Pt.	219.00	47.00	266.00
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete	Pt.	234.00	54.00	288.00
	(e) in existing pipe erected flushed on wall/ceiling complete	Pt.	176.00	47.00	223.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete	Pt.	250.00	94.00	344.00
	(g) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected concealed in wall/ceiling complete	Pt.	354.00	107.00	461.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete	Pt.	219.00	83.00	302.00
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete	Pt.	234.00	89.00	323.00
	(j) in existing pipe erected concealed in wall/ceiling complete	Pt.	176.00	83.00	259.00
(B)	[B] 6/16A Plug and 16 amp switch with 2-2.5 sq. mm Cu. Mains from mcb d b boards.				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete	Pt.	442.00	47.00	489.00
	(b) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete	Pt.	525.00	60.00	585.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete	Pt.	354.00	47.00	401.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete	Pt.	421.00	47.00	468.00
	(e) in existing pipe erected flushed on wall/ceiling complete	Pt.	270.00	47.00	317.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete	Pt.	442.00	83.00	525.00
	(g) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected concealed in wall/ceiling complete	Pt.	525.00	94.00	619.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete	Pt.	354.00	83.00	437.00
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete	Pt.	421.00	83.00	504.00
	(j) in existing pipe erected concealed in wall/ceiling complete	Pt.	270.00	83.00	353.00
(C)	[C] 6/16A Plug and 16 A switch with 2-4 sq.mm Cu. Mains with 2.5 sq.mm (green) earthing wire				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete	Pt.	541.00	60.00	601.00
	(b) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete	Pt.	634.00	71.00	705.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete	Pt.	479.00	60.00	539.00
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete	Pt.	520.00	60.00	580.00
	(e) in existing pipe erected flushed on wall/ceiling complete	Pt.	374.00	60.00	434.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete	Pt.	541.00	94.00	635.00
	(g) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected concealed in wall/ceiling complete	Pt.	634.00	107.00	741.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete	Pt.	479.00	94.00	573.00
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete	Pt.	520.00	94.00	614.00
	(j) in existing pipe erected concealed in wall/ceiling complete	Pt.	374.00	94.00	468.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-1-3.	Point wiring for on board looped PLUG with tissino type single pole ISI marked Switch and Socket erected with necessary connections erected on wooden /Metal/ PVC Box covered with 3 mm thick PC(Polycarbonate) /Acrylic sheet for open / concealed wiring for following size.				
	[A] For 6 Amp.	Pt.	53.00	13.00	66.00
	[B] For 16 Amp.	Pt.	126.00	36.00	162.00
1-1-4.	Point wiring for Tissino / Modular secondary light point with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires, in below type of pipe to be erected complete with earth continuity and necessary connection with primary light with accessories erected on Metal / PVC / wooden box covered with 3 mm thick PC(Polycarbonate) / Acrylic sheet for open / concealed wiring. with necessary Lamp holder / ceiling rose / H.D.Connector as directed.				
	Note:- Maximum up to 6 mtrs length, excess will be considered as Mains for Secondary Point.				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete	Pt.	100.00	31.00	131.00
	(b) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete	Pt.	156.00	36.00	192.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete	Pt.	79.00	31.00	110.00
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete	Pt.	89.00	31.00	120.00
	(e) in existing pipe erected flushed on wall/ceiling complete	Pt.	53.00	31.00	84.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete	Pt.	100.00	66.00	166.00
	(g) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected concealed in wall/ceiling complete	Pt.	156.00	71.00	227.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete	Pt.	79.00	66.00	145.00
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete	Pt.	89.00	66.00	155.00
	(j) in existing pipe erected concealed in wall/ceiling complete	Pt.	53.00	66.00	119.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-1-5.	Point wiring for Two Way Controlled Light Point with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires up to 10 mtr length, in following type of pipe to be erected concealed in / flushed on wall / ceiling complete with 6A Tissino Type ISI marked accessories with earth continuity erected on Metal/PVC//Wooden box covered with 3 mm thick PC(Polycarbonate) / Acrylic sheet. with necessary Lamp holder/ceiling rose / H.D.Connector as directed.				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete	Pt.	301.00	71.00	372.00
	(b) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete	Pt.	421.00	83.00	504.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete	Pt.	280.00	47.00	327.00
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete	Pt.	297.00	60.00	357.00
	(e) in existing pipe erected flushed on wall/ceiling complete	Pt.	229.00	47.00	276.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete	Pt.	301.00	107.00	408.00
	(g) with 16 swg(1.6 mm thick) HGS metal conduit pipe and accessories painted black erected concealed in wall/ceiling complete	Pt.	421.00	119.00	540.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete	Pt.	280.00	83.00	363.00
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete	Pt.	297.00	94.00	391.00
	(j) in existing pipe erected concealed in wall/ceiling complete	Pt.	229.00	83.00	312.00
Section - 1-2 Point wiring in Copper (MODULAR TYPE)					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-2-1.	Point wiring for Light / Bell with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires up to 10 mtr length , in below type of pipe erected with 6A Modular type switch / bell push & accessories and earth continuity of following type, erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected, with necessary Lamp holder/ceiling rose / H.D.Connector as directed.				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete				
	Cat. I	Pt.	301.00	71.00	372.00
	Cat. II	Pt.	354.00	71.00	425.00
	Cat. III	Pt.	374.00	71.00	445.00
	(b) with 16 swg HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete				
	Cat. I	Pt.	405.00	94.00	499.00
	Cat. II	Pt.	457.00	94.00	551.00
	Cat. III	Pt.	479.00	94.00	573.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete				
	Cat. I	Pt.	270.00	60.00	330.00
	Cat. II	Pt.	322.00	60.00	382.00
	Cat. III	Pt.	343.00	60.00	403.00
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete				
	Cat. I	Pt.	292.00	60.00	352.00
	Cat. II	Pt.	301.00	60.00	361.00
	Cat. III	Pt.	321.00	60.00	381.00
	(e) in existing pipe erected flushed on wall/ceiling complete				
	Cat. I	Pt.	229.00	60.00	289.00
	Cat. II	Pt.	280.00	60.00	340.00
	Cat. III	Pt.	312.00	60.00	372.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete				
	Cat. I	Pt.	301.00	107.00	408.00
	Cat. II	Pt.	354.00	107.00	461.00
	Cat. III	Pt.	374.00	107.00	481.00
	(g) with 16 swg HGS metal conduit pipe and accessories painted black. erected concealed in wall/ceiling complete				
	Cat. I	Pt.	405.00	131.00	536.00
	Cat. II	Pt.	457.00	131.00	588.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat. III	Pt.	479.00	131.00	610.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete				
	Cat. I	Pt.	270.00	94.00	364.00
	Cat. II	Pt.	322.00	94.00	416.00
	Cat. III	Pt.	343.00	94.00	437.00
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete				
	Cat. I	Pt.	292.00	94.00	386.00
	Cat. II	Pt.	301.00	94.00	395.00
	Cat. III	Pt.	321.00	94.00	415.00
	(j) in existing pipe erected concealed in wall/ceiling complete				
	Cat. I	Pt.	229.00	94.00	323.00
	Cat. II	Pt.	280.00	94.00	374.00
	Cat. III	Pt.	312.00	94.00	406.00
1-2-2.	Point wiring for FAN with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of .ISI marked 1.1 KV Grade FRLS PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected with 6A Modular type switch and hum free EME step type electronic fan regulator mounted and accessories with earth continuity of following type erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary ceiling rose / H.D.Connector as directed.				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete				
	Cat. I	Pt.	457.00	71.00	528.00
	Cat. II	Pt.	541.00	71.00	612.00
	Cat. III	Pt.	561.00	71.00	632.00
	(b) with 16 swg HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete				
	Cat. I	Pt.	561.00	94.00	655.00
	Cat. II	Pt.	644.00	94.00	738.00
	Cat. III	Pt.	666.00	94.00	760.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete				
	Cat. I	Pt.	415.00	60.00	475.00
	Cat. II	Pt.	508.00	60.00	568.00
	Cat. III	Pt.	530.00	60.00	590.00
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat. I	Pt.	437.00	60.00	497.00
	Cat. II	Pt.	488.00	60.00	548.00
	Cat. III	Pt.	508.00	60.00	568.00
	(e) in existing pipe erected flushed on wall/ceiling complete				
	Cat. I	Pt.	374.00	60.00	434.00
	Cat. II	Pt.	442.00	60.00	502.00
	Cat. III	Pt.	457.00	60.00	517.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete				
	Cat. I	Pt.	457.00	107.00	564.00
	Cat. II	Pt.	541.00	107.00	648.00
	Cat. III	Pt.	561.00	107.00	668.00
	(g) with 16 swg HGS metal conduit pipe and accessories painted black. erected concealed in wall/ceiling complete				
	Cat. I	Pt.	561.00	131.00	692.00
	Cat. II	Pt.	644.00	131.00	775.00
	Cat. III	Pt.	666.00	131.00	797.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete				
	Cat. I	Pt.	415.00	94.00	509.00
	Cat. II	Pt.	508.00	94.00	602.00
	Cat. III	Pt.	530.00	94.00	624.00
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete				
	Cat. I	Pt.	437.00	94.00	531.00
	Cat. II	Pt.	488.00	94.00	582.00
	Cat. III	Pt.	508.00	94.00	602.00
	(j) in existing pipe erected concealed in wall/ceiling complete				
	Cat. I	Pt.	374.00	94.00	468.00
	Cat. II	Pt.	442.00	94.00	536.00
	Cat. III	Pt.	457.00	94.00	551.00
1-2-3.	Point wiring for Individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin Plug erected on PVC / Metallic/Wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.				
(l)	[l] For 6A Plug and 6 a switch with 2-1.5 sq.mm Cu. Wire from nearby switchboard/mcb db board				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat. I	Pt.	374.00	60.00	434.00
	Cat. II	Pt.	395.00	60.00	455.00
	Cat. III	Pt.	411.00	60.00	471.00
	(b) with 16 swg HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete				
	Cat. I	Pt.	479.00	71.00	550.00
	Cat. II	Pt.	499.00	71.00	570.00
	Cat. III	Pt.	515.00	71.00	586.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete				
	Cat. I	Pt.	343.00	47.00	390.00
	Cat. II	Pt.	363.00	47.00	410.00
	Cat. III	Pt.	380.00	47.00	427.00
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete				
	Cat. I	Pt.	358.00	54.00	412.00
	Cat. II	Pt.	363.00	54.00	417.00
	Cat. III	Pt.	395.00	54.00	449.00
	(e) in existing pipe erected flushed on wall/ceiling complete				
	Cat. I	Pt.	301.00	47.00	348.00
	Cat. II	Pt.	322.00	47.00	369.00
	Cat. III	Pt.	338.00	47.00	385.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete				
	Cat. I	Pt.	374.00	94.00	468.00
	Cat. II	Pt.	395.00	94.00	489.00
	Cat. III	Pt.	411.00	94.00	505.00
	(g) with 16 swg HGS metal conduit pipe and accessories painted black. erected concealed in wall/ceiling complete				
	Cat. I	Pt.	479.00	107.00	586.00
	Cat. II	Pt.	499.00	107.00	606.00
	Cat. III	Pt.	515.00	107.00	622.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete				
	Cat. I	Pt.	343.00	83.00	426.00
	Cat. II	Pt.	363.00	83.00	446.00
	Cat. III	Pt.	380.00	83.00	463.00
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete				
	Cat. I	Pt.	358.00	89.00	447.00
	Cat. II	Pt.	363.00	89.00	452.00
	Cat. III	Pt.	395.00	89.00	484.00
	(j) in existing pipe erected concealed in wall/ceiling complete				
	Cat. I	Pt.	301.00	83.00	384.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat. II	Pt.	322.00	83.00	405.00
	Cat. III	Pt.	338.00	83.00	421.00
(II)	[II] For 16A Plug and 16 amp switch with 2-2.5 sq.mm Cu. Wire from mcb db board.				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete				
	Cat. I	Pt.	582.00	60.00	642.00
	Cat. II	Pt.	618.00	60.00	678.00
	Cat. III	Pt.	644.00	60.00	704.00
	(b) with 16 swg HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete				
	Cat. I	Pt.	666.00	71.00	737.00
	Cat. II	Pt.	707.00	71.00	778.00
	Cat. III	Pt.	727.00	71.00	798.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete				
	Cat. I	Pt.	499.00	47.00	546.00
	Cat. II	Pt.	541.00	47.00	588.00
	Cat. III	Pt.	561.00	47.00	608.00
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete				
	Cat. I	Pt.	561.00	47.00	608.00
	Cat. II	Pt.	602.00	47.00	649.00
	Cat. III	Pt.	618.00	47.00	665.00
	(e) in existing pipe erected flushed on wall/ceiling complete				
	Cat. I	Pt.	411.00	47.00	458.00
	Cat. II	Pt.	452.00	47.00	499.00
	Cat. III	Pt.	479.00	47.00	526.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete				
	Cat. I	Pt.	582.00	94.00	676.00
	Cat. II	Pt.	618.00	94.00	712.00
	Cat. III	Pt.	644.00	94.00	738.00
	(g) with 16 swg HGS metal conduit pipe and accessories painted black. erected concealed in wall/ceiling complete				
	Cat. I	Pt.	666.00	107.00	773.00
	Cat. II	Pt.	707.00	107.00	814.00
	Cat. III	Pt.	722.00	107.00	829.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete				
	Cat. I	Pt.	499.00	83.00	582.00
	Cat. II	Pt.	541.00	83.00	624.00
	Cat. III	Pt.	561.00	83.00	644.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete				
	Cat. I	Pt.	561.00	83.00	644.00
	Cat. II	Pt.	602.00	83.00	685.00
	Cat. III	Pt.	618.00	83.00	701.00
	(j) in existing pipe erected concealed in wall/ceiling complete				
	Cat. I	Pt.	411.00	83.00	494.00
	Cat. II	Pt.	452.00	83.00	535.00
	Cat. III	Pt.	479.00	83.00	562.00
(III)	[III] For 16A Plug and 16 amp switch with 2-4 sq.mm Cu. Wire with 2.5 sq.mm (green) earthing wire from mcb d b board.				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete				
	Cat. I	Pt.	707.00	60.00	767.00
	Cat. II	Pt.	748.00	60.00	808.00
	Cat. III	Pt.	769.00	60.00	829.00
	(b) with 16 swg HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete				
	Cat. I	Pt.	800.00	71.00	871.00
	Cat. II	Pt.	830.00	71.00	901.00
	Cat. III	Pt.	862.00	71.00	933.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete				
	Cat. I	Pt.	644.00	60.00	704.00
	Cat. II	Pt.	686.00	60.00	746.00
	Cat. III	Pt.	707.00	60.00	767.00
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete				
	Cat. I	Pt.	686.00	60.00	746.00
	Cat. II	Pt.	722.00	60.00	782.00
	Cat. III	Pt.	748.00	60.00	808.00
	(e) in existing pipe erected flushed on wall/ceiling complete				
	Cat. I	Pt.	541.00	60.00	601.00
	Cat. II	Pt.	582.00	60.00	642.00
	Cat. III	Pt.	602.00	60.00	662.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete				
	Cat. I	Pt.	707.00	94.00	801.00
	Cat. II	Pt.	748.00	94.00	842.00
	Cat. III	Pt.	769.00	94.00	863.00
	(g) with 16 swg HGS metal conduit pipe and accessories painted black. erected concealed in wall/ceiling complete				
	Cat. I	Pt.	800.00	107.00	907.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat. II	Pt.	830.00	107.00	937.00
	Cat. III	Pt.	862.00	107.00	969.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete				
	Cat. I	Pt.	644.00	94.00	738.00
	Cat. II	Pt.	686.00	94.00	780.00
	Cat. III	Pt.	707.00	94.00	801.00
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete				
	Cat. I	Pt.	686.00	94.00	780.00
	Cat. II	Pt.	722.00	94.00	816.00
	Cat. III	Pt.	748.00	94.00	842.00
	(j) in existing pipe erected concealed in wall/ceiling complete				
	Cat. I	Pt.	541.00	94.00	635.00
	Cat. II	Pt.	582.00	94.00	676.00
	Cat. III	Pt.	602.00	94.00	696.00
1-2-4.	Point wiring for on board Looped Plug with 6A Modular type switch & 5 pin socket erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate modules erected on / in wall / ceiling with following type accessories				
	Cat. I	Pt.	167.00	36.00	203.00
	Cat. II	Pt.	198.00	36.00	234.00
	Cat. III	Pt.	219.00	36.00	255.00
1-2-5.	Point wiring for Two Way Controlled Light Point with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (green) both are of .ISI marked 1.1 KV grade FRLS PVC insulated multi strand copper wires erected in below type of pipe with 6A Modular type switches and following type of accessories erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary batten/angle holder or ceiling rose or H.D.Connector as directed.				
	(a) with medium class Rigid PVC pipe and accessories erected flushed on wall/ceiling complete				
	Cat. I	Pt.	405.00	83.00	488.00
	Cat. II	Pt.	457.00	83.00	540.00
	Cat. III	Pt.	479.00	83.00	562.00
	(b) with 16 swg HGS metal conduit pipe and accessories painted black erected flushed on wall/ceiling complete				
	Cat. I	Pt.	508.00	94.00	602.00
	Cat. II	Pt.	561.00	94.00	655.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat. III	Pt.	582.00	94.00	676.00
	(c) with oval conduit /PVC casing capping double lock type erected flushed on wall/ceiling complete				
	Cat. I	Pt.	374.00	60.00	434.00
	Cat. II	Pt.	426.00	60.00	486.00
	Cat. III	Pt.	457.00	60.00	517.00
	(d) partial PVC pipe and drops in oval conduit / PVC casing capping erected flushed on wall/ceiling complete				
	Cat. I	Pt.	395.00	60.00	455.00
	Cat. II	Pt.	405.00	60.00	465.00
	Cat. III	Pt.	426.00	60.00	486.00
	(e) in existing pipe erected flushed on wall/ceiling complete				
	Cat. I	Pt.	333.00	60.00	393.00
	Cat. II	Pt.	385.00	60.00	445.00
	Cat. III	Pt.	415.00	60.00	475.00
	(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete				
	Cat. I	Pt.	405.00	119.00	524.00
	Cat. II	Pt.	457.00	119.00	576.00
	Cat. III	Pt.	479.00	119.00	598.00
	(g) with 16 swg HGS metal conduit pipe and accessories painted black. erected concealed in wall/ceiling complete				
	Cat. I	Pt.	508.00	131.00	639.00
	Cat. II	Pt.	561.00	131.00	692.00
	Cat. III	Pt.	582.00	131.00	713.00
	(h) with oval conduit /PVC casing capping double lock type erected concealed in wall/ceiling complete				
	Cat. I	Pt.	374.00	94.00	468.00
	Cat. II	Pt.	426.00	94.00	520.00
	Cat. III	Pt.	457.00	94.00	551.00
	(i) partial PVC pipe and drops in oval conduit / PVC casing capping erected concealed in wall/ceiling complete				
	Cat. I	Pt.	395.00	94.00	489.00
	Cat. II	Pt.	405.00	94.00	499.00
	Cat. III	Pt.	426.00	94.00	520.00
	(j) in existing pipe erected concealed in wall/ceiling complete				
	Cat. I	Pt.	333.00	94.00	427.00
	Cat. II	Pt.	385.00	94.00	479.00
	Cat. III	Pt.	415.00	94.00	509.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-2-6.	Providing following type of Modular Type Accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge.				
	(1)One No. SP 6 Amp.				
	Cat.I	Ea.	80.00	10.00	90.00
	Cat.II	Ea.	114.00	10.00	124.00
	Cat.III	Ea.	140.00	10.00	150.00
	(2) One No 5 pin plug				
	Cat.I	Ea.	80.00	10.00	90.00
	Cat.II	Ea.	114.00	10.00	124.00
	Cat.III	Ea.	140.00	10.00	150.00
	(3) Two Pin/RJ-11 Telephone Socket				
	[A] For One Gang				
	Cat.I	Ea.	89.00	10.00	99.00
	Cat.II	Ea.	120.00	10.00	130.00
	Cat.III	Ea.	149.00	10.00	159.00
	[B] For Two Gang				
	Cat.I	Ea.	120.00	10.00	130.00
	Cat.II	Ea.	159.00	10.00	169.00
	Cat.III	Ea.	198.00	10.00	208.00
	(4) TV Co-axial Socket outlet				
	Cat.I	Ea.	100.00	10.00	110.00
	Cat.II	Ea.	129.00	10.00	139.00
	Cat.III	Ea.	149.00	10.00	159.00
	(5) Electronic hum Free steps EME Fan regulator				
	Cat.I	Ea.	277.00	10.00	287.00
	Cat.II	Ea.	328.00	10.00	338.00
	Cat.III	Ea.	385.00	10.00	395.00
	(6) Fuse units 10Amp. or 16 Amp.				
	Cat.I	Ea.	89.00	10.00	99.00
	Cat.II	Ea.	110.00	10.00	120.00
	Cat.III	Ea.	169.00	10.00	179.00
	(7) Blank Plate Single				
	Cat.I	Ea.	12.00	0.00	12.00
	Cat.II	Ea.	16.00	0.00	16.00
	Cat.III	Ea.	25.00	0.00	25.00
	(8) Computer RJ-45 socket				
	Cat.I	Ea.	100.00	10.00	110.00
	Cat.II	Ea.	129.00	10.00	139.00
	Cat.III	Ea.	149.00	10.00	159.00
	(9) 16 Amp. SP one way switch				
	Cat.I	Ea.	89.00	10.00	99.00
	Cat.II	Ea.	120.00	10.00	130.00
	Cat.III	Ea.	169.00	10.00	179.00
	(10) 6/16Amp. Universal socket				
	Cat.I	Ea.	110.00	10.00	120.00
	Cat.II	Ea.	129.00	10.00	139.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat.III	Ea.	188.00	10.00	198.00
	(11) 6 Amps. Bell Push				
	Cat.I	Ea.	89.00	10.00	99.00
	Cat.II	Ea.	100.00	10.00	110.00
	Cat.III	Ea.	140.00	10.00	150.00
	(12) 6Amp. / 16 Amp. Two Way switch				
	Cat.I	Ea.	110.00	10.00	120.00
	Cat.II	Ea.	120.00	10.00	130.00
	Cat.III	Ea.	159.00	10.00	169.00
	(13) 6A/10A/16A/20A/25A/32A Single pole Modular MCB Switch				
	Cat.I	Ea.	218.00	10.00	228.00
	Cat.II	Ea.	257.00	10.00	267.00
	Cat.III	Ea.	297.00	10.00	307.00
	(14) 6A/ 10A/ 16A/ 20A/ 25A/ 32A Double Pole Modular MCB Switch				
	Cat.I	Ea.	297.00	10.00	307.00
	Cat.II	Ea.	317.00	10.00	327.00
	Cat.III	Ea.	396.00	10.00	406.00
	(15) 32 Amps. DP switch with Indicator				
	Cat.I	Ea.	198.00	10.00	208.00
	Cat.II	Ea.	218.00	10.00	228.00
	Cat.III	Ea.	268.00	10.00	278.00
	(16) 32 Amp. DP Main Switch Operating with Energy Key Tag				
	Cat.I	Ea.	277.00	10.00	287.00
	Cat.II	Ea.	308.00	10.00	318.00
	Cat.III	Ea.	347.00	10.00	357.00
	(17-a) For 400W / 450 watt One Module Electronic Dimmer				
	Cat. II	Ea.	248.00	10.00	258.00
	Cat. III	Ea.	308.00	10.00	318.00
	(17-b) For 600 / 650 watt Two module Electronic Dimmer				
	Cat. II	Ea.	328.00	10.00	338.00
	Cat. III	Ea.	385.00	10.00	395.00
	(17-c) For 1000 watt two module Electronic Dimmer				
	Cat. II	Ea.	505.00	10.00	515.00
	Cat. III	Ea.	584.00	10.00	594.00
	(18) 13 Amp. International Modular Socket				
	Cat.I	Ea.	149.00	10.00	159.00
	Cat.II	Ea.	169.00	10.00	179.00
	Cat.III	Ea.	228.00	10.00	238.00
	(19) Modular Indicating Call Bell				
	Cat.III	Ea.	312.00	14.00	326.00
	(20) Modular Buzzer				
	Cat.II	Ea.	114.00	14.00	128.00
	Cat.III	Ea.	134.00	14.00	148.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(21) Foot Light as per colour requirement with concealed box, modular accessories, acrylic glass cover with suitable LED watt with all accessories as per following module				
	(a) Two modules Cat-III	Ea.	268.00	45.00	313.00
	(b) Four modules Cat-III	Ea.	445.00	45.00	490.00
	(c) Six modules Cat-III	Ea.	554.00	45.00	599.00
	(22) 16/20/25 Amp. Modular Starter for Motor / A.C. Unit Complete				
	Cat.II	Ea.	366.00	28.00	394.00
	Cat.III	Ea.	465.00	28.00	493.00
	(23) USB Charger with output of 5 V DC,2.1 A with inbuilt surge protection. Cat-III	Ea	662.00	14.00	676.00
	(24) Batten Holder/Angle Holder with modular frame with metal ring. Cat-III	Ea	54.00	10.00	64.00
1-2-7.	Providing & erecting following type of Modular Type Accessories with necessary connection. As desired by Engineer In charge				
	(1) 6 Amp. SP one way switch	Ea	21.00	6.00	27.00
	(2) 16 Amp. SP one way switch	Ea	45.00	6.00	51.00
	(3) 6/16Amp. Universal socket	Ea	76.00	6.00	82.00
	(4) 6 A socket	Ea	36.00	6.00	42.00
	(5) LAN cable connector with ferule	Ea	30.00	6.00	36.00
1-2-8.	Providing D type non rechargeable carbon zinc type Cell 1.5v of desired make suitable as demanded by engineer in charge evereday,panasonic,nippo make	Ea	30.00	0.00	30.00
1-2-9.	Providing AA type 1.5 v non rechargeable Cell of desired make as demanded by engineer in charge				
	(a)Carbon-zinc evereday,panasonic,nippo make	Ea	12.00	0.00	12.00
	(b)Alkaline -Dura cell make	Ea	70.00	0.00	70.00
1-2-10	Providing AAA type 1.5 v Cell of desired make as demanded by engineer in charge				
	(a)Carbon-zinc evereday,panasonic,nippo make	Ea	12.00	0.00	12.00
	(b)Alkaline -Dura cell make	Ea	80.00	0.00	80.00
1-2-11	Providing 9v Cell of desired make as demanded by engineer in charge				
	(a)Hiwatt/evereday/panasonic	Ea	198.00	0.00	198.00
	(b)Ultra alkaline -Dura cell make	Ea	268.00	0.00	268.00
Section - 1-3 Conduits & Pipes					
1-3-1.	For Laying of Pipes on Stone Wall add to the following item rate per meter	Mtr.			

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-3-2.	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed				
	(a)20 mm	Mtr.	18.00	6.00	24.00
	(b) 25 mm	Mtr.	27.00	6.00	33.00
	(c) 32 mm	Mtr.	47.00	7.00	54.00
	(d) 40 mm	Mtr.	59.00	8.00	67.00
1-3-3.	Providing & erecting approved make OVAL CONDUIT with necessary fittings fixed with adhesive solution and suitable clamps erected on wall / ceiling of following size.				
	(1) 20 mm	Mtr.	23.00	4.00	27.00
	(2) 25mm	Mtr.	30.00	6.00	36.00
1-3-4.	Providing & erecting PVC Corrugated Flexible Conduit with required nos. of coupling, PVC bushes, Check-nuts etc. complete of following sizes.				
	(1) 20 mm	Mtr.	14.00	3.00	17.00
	(2) 25 mm	Mtr.	18.00	3.00	21.00
	(3) 32 mm	Mtr.	24.00	3.00	27.00
	(4) 40 mm	Mtr.	34.00	3.00	37.00
	(5) 50 mm	Mtr.	43.00	3.00	46.00
1-3-5.	Supplying & erecting UPVC Mini trunking (PVC Casing-n-Capping) having double-locking arrangement with grooves, trunking of size not below 12.5 mm in height as per IS with accessories of PVC/Resin polypropylene not below 1.8 mm thick duly sealed in joint & erected on wall / ceiling of following size .				
	(1) 20 mm	Mtr.	16.00	6.00	22.00
	(2) 25 mm	Mtr.	25.00	6.00	31.00
	(3) 32 mm	Mtr.	30.00	6.00	36.00
	(4) 40 mm	Mtr.	36.00	6.00	42.00
UPVC TRUNKING SYSTEM					
1-3-6	Supplying and laying UPVC cable trunking system comprising unplasticised polyvinyl, chloride rigid material with ignition free and flame proof confirming BS with necessary end caps Internal and external bend, flat bends, coupler, tee etc..All necessary accessories and measuring of following sizes				
	(1) 75 mm x 50 mm trunking	Mtr.	257.00	18.00	275.00
	(2) 100 mm x 50 mm trunking	Mtr.	396.00	28.00	424.00
	(3) 50 mm x 50 mm trunking	Mtr	169.00	18.00	187.00
	(4)100 mm x 50 mm trunking with TWIN compartment With clip in divider	Mtr	1281.00	28.00	1309.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-3-7.	Supply & installation of surface mounted U PVC snap-on adaptable trunking raceways, fabricated out of U-PVC to Off-White or approved shade as per IS 733 of thickness 2.0mm for the base and sides with all accessories like removable covers, joints ,height spacer,angles complete with necessary bends, suitable sized junction boxes and tees etc, Complete.				
	(a)Size: 50x80mm PVC Raceways for Power & Data with 2 compartments above specifications.	MTr	1024.00	28.00	1052.00
	(b)Size: 50x130 mm PVC Raceways for Power & Data with 2 compartments above specifications.	Mtr	1789.00	28.00	1817.00
1-3-8.	Providing & Erecting eight module pop up floor box/flushed with table surface Conform to IEC 60670-1, IEC 60670-23 & IEC 60884-1 with required items as demanded by engineer in charge with complete finishing .cat-III	Ea.	1457.00	72.00	1529.00
1-3-9.	Supply & installation of modular type accessories for U PVC snap-on adaptable trunking/Pop up Box with required items erected with necessary connection. As desired by Engineer In charge				
	i) 6 A SP 1 Way Switch cat-III	Ea.	194.00	10.00	204.00
	ii) 16A SP 1 Way Switch cat-III	Ea.	341.00	10.00	351.00
	iii) Bell Push 6 A SP 1 Way cat-III	Ea.	278.00	10.00	288.00
	iv) 6A universal socket shuttered cat-III	Ea.	337.00	10.00	347.00
	iv) 6/16 A universal socket shuttered cat-III	Ea.	448.00	10.00	458.00
	v) RJ-11 Telephone socket cat-III	Ea.	234.00	10.00	244.00
	vi) Cat-6 LAN Socket cat-III	Ea.	551.00	10.00	561.00
METAL TRUNKING					
1-3-10	Supplying under floor pregalvanised corrosion proof rectangular sheet steel cable trunking of 1.6 mm thick having with stand point load up to 1.33 Ton & free from seepage of concrete of screed water with all accessories,Junction Box,Joints as required and demanded by engineer-incharge and laying/erecting as per OEM guidelines and as per instruction of engineer incharge having following size of dimensions and No of compartments (W x D x T) Cat-III				
	[1] 50mm x 25mm x 1.6 mm with One Compartment	Mtr	277.00	18.00	295.00
	[2] 75mm x 25mm x 1.6 mm with One Compartment	Mtr	356.00	18.00	374.00
	[3] 100mm x 25mm x 1.6 mm with one compartment	Mtr	426.00	28.00	454.00
	[4] 225mm x 25mm x 1.6 mm with Three Compartment	Mtr	929.00	36.00	965.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[5] 250mm x 25mm x 1.6 mm with Three Compartments	Mtr	999.00	36.00	1035.00
	[6] 300mm x 25mm x 1.6 mm with Three Compartments	Mtr	1167.00	45.00	1212.00
	[7] 50mm x 38mm x 1.6 mm with One Compartments	Mtr	356.00	18.00	374.00
	[8] 75mm x 38mm x 1.6 mm with one compartments	Mtr	436.00	18.00	454.00
	[9] 100mm x 38mm x 1.6 mm with One Compartments	Mtr	515.00	28.00	543.00
	[10] 150mm x 38mm x 1.6mm with Three Compartments	Mtr	722.00	36.00	758.00
	[11] 225mm x 38mm x 1.6mm with Three Compartments	Mtr	1048.00	36.00	1084.00
	[12] 250mm x 38mm x 1.6mm with Three Compartments	Mtr	1147.00	36.00	1183.00
	[13] 300mm x 38mm x 1.6 mm with Three Compartments	Mtr	1284.00	45.00	1329.00
1-3-11	Providing & erecting 16 gauge HGS conduit pipe (as per IS) painted black surface/concealed of following size complete to be erected on/in wall or ceiling with erected with necessary saddles, screws, bends, junction boxes etc. with following (Nominal Bore) dia of pipes, in approved manner as directed				
	(1) 19/20 mm	Mtr.	70.00	18.00	88.00
	(2) 25 mm	Mtr.	89.00	18.00	107.00
	(3) 32 mm	Mtr.	120.00	18.00	138.00
	(4) 38/40 mm	Mtr.	198.00	28.00	226.00
	(5) 50 mm	Mtr.	287.00	28.00	315.00
Section 1-4 Mains & Wires					
1-4-1.	Providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected concealed in /flushed on wall/ceiling, with 1.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size				
(A)	(A) With medium class Rigid PVC pipe and accessories				
	(a) 2 wire 1.5 sq. mm	Mtr.	56.00	6.00	62.00
	(b) 2 wire 2.5 sq. mm	Mtr.	76.00	6.00	82.00
	(c) 3 wire 1.5 sq. mm	Mtr.	76.00	6.00	82.00
	(d) 3 wire 2.5 sq. mm	Mtr.	95.00	6.00	101.00
	(e) 4 wire 1.5 sq. mm	Mtr.	84.00	6.00	90.00
	(f) 4 wire 2.5 sq. mm	Mtr.	119.00	6.00	125.00
	(g) 6 wire 2.5 sq. mm	Mtr.	164.00	6.00	170.00
(B)	(B) With 16 swg HGS metal conduit pipe and accessories painted black.				
	(a) 2 wire 1.5 sq. mm	Mtr.	105.00	23.00	128.00
	(b) 2 wire 2.5 sq. mm	Mtr.	129.00	23.00	152.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(c) 3 wire 1.5 sq. mm	Mtr.	124.00	23.00	147.00
	(d) 3 wire 2.5 sq. mm	Mtr.	149.00	23.00	172.00
	(e) 4 wire 1.5 sq. mm	Mtr.	129.00	28.00	157.00
	(f) 4 wire 2.5 sq. mm	Mtr.	164.00	28.00	192.00
	(g) 6 wire 2.5 sq. mm	Mtr.	218.00	28.00	246.00
(C)	(C) With oval conduit /PVC casing capping double lock type				
	(a) 2 wire 1.5 sq. mm	Mtr.	50.00	6.00	56.00
	(b) 2 wire 2.5 sq. mm	Mtr.	76.00	6.00	82.00
	(c) 3 wire 1.5 sq. mm	Mtr.	70.00	6.00	76.00
	(d) 3 wire 2.5 sq. mm	Mtr.	89.00	6.00	95.00
	(e) 4 wire 1.5 sq. mm	Mtr.	80.00	6.00	86.00
	(f) 4 wire 2.5 sq. mm	Mtr.	113.00	6.00	119.00
	(g) 6 wire 2.5 sq. mm	Mtr.	177.00	6.00	183.00
(D)	(D) Partial PVC pipe and drops in oval conduit / PVC casing capping				
	(a) 2 wire 1.5 sq. mm	Mtr.	50.00	6.00	56.00
	(b) 2 wire 2.5 sq. mm	Mtr.	76.00	6.00	82.00
	(c) 3 wire 1.5 sq. mm	Mtr.	70.00	6.00	76.00
	(d) 3 wire 2.5 sq. mm	Mtr.	89.00	6.00	95.00
	(e) 4 wire 1.5 sq. mm	Mtr.	80.00	6.00	86.00
	(f) 4 wire 2.5 sq. mm	Mtr.	119.00	6.00	125.00
	(g) 6 wire 2.5 sq. mm	Mtr.	158.00	6.00	164.00
(E)	(E) in existing pipe				
	(a) 2 wire 1.5 sq. mm	Mtr.	42.00	4.00	46.00
	(b) 2 wire 2.5 sq. mm	Mtr.	58.00	4.00	62.00
	(c) 3 wire 1.5 sq. mm	Mtr.	56.00	6.00	62.00
	(d) 3 wire 2.5 sq. mm	Mtr.	85.00	6.00	91.00
	(e) 4 wire 1.5 sq. mm	Mtr.	75.00	6.00	81.00
	(f) 4 wire 2.5 sq. mm	Mtr.	108.00	6.00	114.00
	(g) 6 wire 2.5 sq. mm	Mtr.	148.00	6.00	154.00
1-4-2.	providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected in / on wall / ceiling with 2.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size				
(A)	(A) with medium class Rigid PVC pipe and accessories				
	(a) 2 wire 4 sq. mm	Mtr.	105.00	6.00	111.00
	(b) 2 wire 6 sq. mm	Mtr.	140.00	6.00	146.00
	(c) 2 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	227.00	7.00	234.00
	(d) 3 wire 4 sq. mm	Mtr.	134.00	7.00	141.00
	(e) 3 wire 6 sq. mm	Mtr.	192.00	7.00	199.00
	(f) 3 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	315.00	7.00	322.00
	(g) 4 wire 4 sq. mm	Mtr.	169.00	10.00	179.00
	(h) 4 wire 6 sq. mm	Mtr.	248.00	10.00	258.00
	(i) 4 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	411.00	10.00	421.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
(B)	(B) with 16 swg HGS metal conduit pipe and accessories painted black.				
	(a) 2 wire 4 sq. mm	Mtr.	149.00	23.00	172.00
	(b) 2 wire 6 sq. mm	Mtr.	188.00	23.00	211.00
	(c) 2 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	273.00	23.00	296.00
	(d) 3 wire 4 sq. mm	Mtr.	179.00	23.00	202.00
	(e) 3 wire 6 sq. mm	Mtr.	243.00	23.00	266.00
	(f) 3 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	366.00	23.00	389.00
	(g) 4 wire 4 sq. mm	Mtr.	204.00	28.00	232.00
	(h) 4 wire 6 sq. mm	Mtr.	297.00	28.00	325.00
	(i) 4 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	450.00	28.00	478.00
(C)	(C) with oval conduit /PVC casing capping double lock type				
	(a) 2 wire 4 sq. mm	Mtr.	89.00	6.00	95.00
	(b) 2 wire 6 sq. mm	Mtr.	129.00	6.00	135.00
	(c) 2 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	216.00	7.00	223.00
	(d) 3 wire 4 sq. mm	Mtr.	124.00	7.00	131.00
	(e) 3 wire 6 sq. mm	Mtr.	187.00	7.00	194.00
	(f) 3 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	310.00	7.00	317.00
	(g) 4 wire 4 sq. mm	Mtr.	159.00	10.00	169.00
	(h) 4 wire 6 sq. mm	Mtr.	243.00	10.00	253.00
	(i) 4 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	401.00	10.00	411.00
(D)	(D) partial PVC pipe and drops in oval conduit / PVC casing capping				
	(a) 2 wire 4 sq. mm	Mtr.	100.00	6.00	106.00
	(b) 2 wire 6 sq. mm	Mtr.	134.00	6.00	140.00
	(c) 2 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	222.00	7.00	229.00
	(d) 3 wire 4 sq. mm	Mtr.	132.00	7.00	139.00
	(e) 3 wire 6 sq. mm	Mtr.	202.00	7.00	209.00
	(f) 3 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	320.00	7.00	327.00
	(g) 4 wire 4 sq. mm	Mtr.	164.00	10.00	174.00
	(h) 4 wire 6 sq. mm	Mtr.	253.00	10.00	263.00
	(i) 4 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	411.00	10.00	421.00
(E)	(E) in existing pipe				
	(a) 2 wire 4 sq. mm	Mtr.	80.00	6.00	86.00
	(b) 2 wire 6 sq. mm	Mtr.	114.00	6.00	120.00
	(c) 2 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	202.00	7.00	209.00
	(d) 3 wire 4 sq. mm	Mtr.	112.00	7.00	119.00
	(e) 3 wire 6 sq. mm	Mtr.	172.00	7.00	179.00
	(f) 3 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	295.00	7.00	302.00
	(g) 4 wire 4 sq. mm	Mtr.	144.00	10.00	154.00
	(h) 4 wire 6 sq. mm	Mtr.	228.00	10.00	238.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(i) 4 wire 10 sq. mm (use earth wire of 4 sq.mm)	Mtr.	385.00	10.00	395.00
1-4-3	providing and erecting Mains with ISI marked electrolyte stranded copper conductor, Non PVC Zero Halogen free fire retardant insulated copper conductor, insulated wire (HRFR) conforms to IS-694, erected in existing pipe with 1.5sq. mm copper conductor of same specifications for earth continuity of following size.				
	[a] 2wire 0.75 sq.mm (w/o ECC)	Mtr	18.00	4.00	22.00
	[b] 2 wire 1.0 sq.mm (w/o ECC)	Mtr	24.00	4.00	28.00
	[c] 2 wire 1.5 sq.mm	Mtr	45.00	6.00	51.00
	[d] 2 wire 2.5 sq.mm	Mtr	65.00	6.00	71.00
	[e] 2 wire 4.0 sq.mm	Mtr	95.00	6.00	101.00
	[f] 2 wire 6.0 sq.mm	Mtr	129.00	10.00	139.00
	[g] 2 wire 10.0 sq.mm	Mtr	209.00	10.00	219.00
	[h] 3 wire 1.0 sq.mm	Mtr	45.00	6.00	51.00
	[i] 3 wire 1.5 sq.mm	Mtr	60.00	6.00	66.00
	[j] 3 wire 2.5 sq.mm	Mtr	95.00	6.00	101.00
	[k] 3 wire 4.0 sq.mm	Mtr	129.00	10.00	139.00
	[l] 4 wire 1.0 sq.mm	Mtr	45.00	6.00	51.00
	[m] 4 wire 1.5 sq.mm	Mtr	76.00	6.00	82.00
	[n] 4 wire 2.5 sq.mm	Mtr	120.00	6.00	126.00
	[o] 4 wire 4.0 sq.mm	Mtr	179.00	10.00	189.00
1-4-4	providing and erecting Mains with ISI marked, 1.5KV grade electrolyte multi stranded, annealed copper conductor with heat resistant PVC insulated conforms to IS 694, IEC - 227 erected in existing pipe of following size (Specifically for control panel, relays, power switchgears, motor starters & control wiring) with required size of copper lugs, nuts and bolts if required.				
	(a) One wire 1.00 sq. mm	Mtr.	10.00	2.00	12.00
	(b) One wire 1.50 sq. mm	Mtr.	15.00	2.00	17.00
	(c) One wire 2.50 sq. mm	Mtr.	24.00	3.00	27.00
	(d) One wire 4.00 sq. mm	Mtr.	34.00	3.00	37.00
	(e) One wire 6.00 sq. mm	Mtr.	53.00	3.00	56.00
	(f) One wire 10.00 sq. mm	Mtr.	88.00	3.00	91.00
	(g) One wire 16.00 sq. mm	Mtr.	137.00	4.00	141.00
	(h) One wire 25.00 sq. mm	Mtr.	230.00	4.00	234.00
	(i) One wire 35.00 sq. mm	Mtr.	294.00	4.00	298.00
	(j) One wire 50.00 sq. mm	Mtr.	460.00	6.00	466.00
	(k) One wire 70.00 sq. mm	Mtr.	657.00	6.00	663.00
	(l) One wire 95.00 sq. mm	Mtr.	898.00	12.00	910.00
	(m) One wire 120.00 sq. mm	Mtr.	1155.00	12.00	1167.00
	(n) One wire 150.00 sq. mm	Mtr.	1433.00	14.00	1447.00
1-4-5	Supplying and erecting Flexible PVC insulated multi strand multi core 1.1 kv grade ISI marked copper wires of following size to be erected as directed.				
	(a) 0.75 Sq.mm twin twisted	Mtr.	13.00	2.00	15.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(b) 1.00 Sq.mm twin twisted	Mtr.	14.00	2.00	16.00
	(c) 1.00 Sq.mm 2 core round/ flat PVC sheathed	Mtr.	20.00	2.00	22.00
	(d) 1.50 Sq.mm 2 core round PVC sheathed	Mtr.	29.00	2.00	31.00
	(e) 1.50 Sq.mm 3 core round PVC sheathed	Mtr.	44.00	2.00	46.00
	(f) 1.50 Sq.mm 4 core round PVC sheathed	Mtr.	65.00	2.00	67.00
	(g) 2.50 Sq.mm 2 core round PVC sheathed	Mtr.	54.00	2.00	56.00
	(h) 2.50 Sq.mm 3 core round PVC sheathed	Mtr.	75.00	2.00	77.00
	(i) 2.50 Sq.mm 4 core round PVC sheathed	Mtr.	104.00	2.00	106.00
	(j) 4.00 Sq.mm 3 core round PVC sheathed	Mtr.	123.00	3.00	126.00
	(k) 4.00Sq.mm 4 core round PVC sheathed	Mtr.	172.00	3.00	175.00
1-4-6	Providing & Erecting approved make following size of TV Co-axial flexible cable comprising inner conductor of solid bare copper insulated with Foam PE & Secondary conductor made of poly - Aluminium film bonded Al. Braids @ suitable coverage overall sheathed with black PVC insulation.				
	(a) RG 59	Mtr.	21.00	3.00	24.00
	(b) RG-6	Mtr.	36.00	3.00	39.00
	(c) RG - 6 CCS	Mtr.	18.00	3.00	21.00
	(d) RG - 11 CCS	Mtr.	34.00	3.00	37.00
	(e) RG-11	Mtr.	59.00	3.00	62.00
1-4-7	Supplying & erecting approved make Telephone Cable electrolytic copper conductor PE insulation twisted in two pairs, & wrapped with FRLS PVC tape & sheathed with FRLS PVC or HFFR outer Jacket suitable for telephone wiring & conforming to C-DOT erected in existing pipe. of following size of conductors & nos.of pairs. With necessary connections.				
	[A] Conductor Size 0.5 mm				
	(a) Unarmoured				
	(1) One Pair	Mtr.	10.00	4.00	14.00
	(2) Two Pairs	Mtr.	16.00	4.00	20.00
	(3) Three Pairs	Mtr.	22.00	4.00	26.00
	(4) Five Pairs	Mtr.	36.00	4.00	40.00
	(5) Ten Pairs	Mtr.	59.00	6.00	65.00
	(6) Twenty Pairs	Mtr.	120.00	6.00	126.00
	(b) Armoured [Jelly Filled]				
	(1) Ten Pairs	Mtr.	114.00	10.00	124.00
	(2) Twenty Pairs	Mtr.	184.00	14.00	198.00
	(3) Fifty Pairs	Mtr.	440.00	23.00	463.00
	(4) One Hundred Pairs	Mtr.	831.00	36.00	867.00
1-4-8	Supplying & erecting approved make LAN cable of following size in existing pipe as per direction				
	[A] CAT - 5	Mtr	30.00	6.00	36.00
	[B] CAT - 5e	Mtr	65.00	6.00	71.00
	[C] CAT - 6	Mtr	41.00	6.00	47.00
	[D] CAT - 6 e	Mtr	70.00	6.00	76.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[E] CAT - 6 shielded	Mtr	88.00	6.00	94.00
1-4-9	Providing & erecting main Distribution (MDF) indoor type, back mounted frame as per DoT standard approved with krone strips				
	(a) Suitable for 10 pair	Ea.	940.00	45.00	985.00
	(b) Suitable for 20 pair	Ea.	1185.00	170.00	1355.00
	(c) Suitable for 50 pair	Ea.	1433.00	297.00	1730.00
	(d) Suitable for 100 pair	Ea.	2964.00	445.00	3409.00
	(e) Suitable for 200 pair	Ea.	5729.00	623.00	6352.00
1-4-10	Providing & Erecting 6 core fibre optic SM 9/125um double sheath, CSTA, Unitube, Outdoor cable (per m)	Rmtr.	50.00	10.00	60.00
Section 1-5 Concealed Boxes & Laminated Sheets					
1-5-1.	Supplying & erecting M.S. Box having 16 Gauge painted with red oxide or Heavy duty PVC box erected flushed on wall or concealed in wall with necessary plastering & finishing as directed of following size.				
	(a) 100 mm x 100 mm x 75 mm(d)	Ea.	36.00	11.00	47.00
	(b) 175 mm x 100 mm x 75 mm(d)	Ea.	65.00	11.00	76.00
	(c) 200 mm x 250 mm x 75 mm(d)	Ea.	76.00	12.00	88.00
	(d) 250 mm x 300 mm x 75 mm(d)	Ea.	95.00	16.00	111.00
1-5-2.	Providing & Erecting 3mm thick Polycarbonate (PC) sheet with grooving as directed	Sq. Inch	2.00	1.00	3.00
1-5-3.	Providing & Erecting 3mm thick acrylic Sheet with grooving as directed	Sq. Inch.	2.00	1.00	3.00
Section 1-6 Wiring Accessories					
1-6-1.	Providing & Erecting following Shockproof tissino type accessories erected on 3 mm thick PC (Polycarbonate) sheet in PVC/ Metal/Wooden Box. erected on wall/ ceiling.				
	(1) One no Single pole 6 A Switch / Bell push	Ea.	25.00	6.00	31.00
	(2) One no 3/5 pin 6 A Socket	Ea.	25.00	6.00	31.00
	(3) One no Single pole 16 A Switch	Ea.	41.00	6.00	47.00
	(4) One no 6/16 A Universal Socket	Ea.	41.00	6.00	47.00
	(5) One no Single pole 16 A Switch & One no 6/16 A Universal Socket combined	Ea.	80.00	14.00	94.00
	(6) One no Single pole 16 A Switch & One no 6A/16A Universal Socket combined with indicator & fuse	Ea.	110.00	14.00	124.00
	(7) Bakelite ceiling, rose	Ea.	12.00	6.00	18.00
	(8) Bakelite lamp holder	Ea.	16.00	6.00	22.00
	(9) Telephone Pin, Socket with suitable top	Ea.	36.00	6.00	42.00
	(10) Jack type tissino Telephone outlet	Ea.	36.00	6.00	42.00
	(11) Tissino type Neon 'Indicator Lamp'	Ea.	16.00	6.00	22.00
	(12) Tissino type TV antenna socket	Ea.	25.00	6.00	31.00
	(13) Tissino type 10A/16A Kitkat fuse	Ea.	25.00	6.00	31.00
	(14) Electronic Hum free EME Socket Type Steps Fan Regulator	Ea.	205.00	12.00	217.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-6-2 (A)	Providing & erecting Switch board for Computer or electric apparatus consisting of following items in single board erected on PVC / Metal/Wooden board concealed/open with 3 mm thick PC (Polycarbonate) / Acrylic sheet erected as directed 1 no. 6A/16A universal plug-switch combined. 3 nos. 6A Switch 3 nos. 6A 5 pin Plug				
	For Tissino Type Accessories	Ea.	297.00	32.00	329.00
1-6-2 (B)	Providing & erecting Switch board for Computer or electric apparatus consisting of following modular type accessories mounted with PVC / Metallic concealed/open box with single mounting base frame covered with textured/metallic /white front plate,modules erected with necessary connections as directed 1 no. 6A/16A universal plug-switch combined. 3 nos. 6A Switch 3 nos. 6A 5 pin Plug				
	For Modular Type Accessories				
	Cat. II	Ea.	969.00	54.00	1023.00
	Cat. III	Ea.	1068.00	54.00	1122.00
1-6-3.	Bakelite adopter for Holder to be erected.	Ea.	6.00	3.00	9.00
1-6-4.	Starter for 20 watts / 40 watts fluorescent tube.	Ea.	6.00	0.00	6.00
1-6-5.	Hanging bed switch / Bell push 5A erected on existing flexible wire.	Ea.	13.00	4.00	17.00
1-6-6.	5A, 10 way bakelite connector duly erected on existing board.	Ea.	23.00	4.00	27.00
1-6-7.	15A. 10 way bakelite connector duly erected on existing board.	Ea.	41.00	6.00	47.00
1-6-8.	Providing & erecting ISI marked 3 pin plug top.				
	(a) for 5/6 A., 240 V	Ea.	18.00	3.00	21.00
	(b) for 15/16A, 240 V	Ea.	29.00	3.00	32.00
1-6-9.	Supplying & erecting Approved make call bell indicator with buzzing sound and Red light indicating lamp with Red light button to attend the call suitable for 240 v 50 c/s supply to be erected.	Ea.	129.00	18.00	147.00
1-6-10.	Call bell / Buzzer,250 volts, complete erected.	Ea.	25.00	6.00	31.00
1-6-11.	Call bell gong type suitable for 230 volts, 50 c/s. AC supply complete Erected	Ea.	36.00	6.00	42.00
1-6-12.	Decorative call bell Ting-tong box type 250 volts complete erected	Ea.	65.00	6.00	71.00
1-6-13.	Supplying & erecting Electronic Type Cordless Call Bell erected on PVC/Metal board having portable bell push working on D.C. & bell on 230V A.C. supply with cells / battery	Ea.	248.00	0.00	248.00
1-6-14	Providing Automatic staircase unit and Light Control switch with Photocell & solid state circuits with loading capacity up to 1000 Watt	Ea.	643.00	45.00	688.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-6-15	Supplying electrical insulation L.T. Tape role with ISI marked having nominal width 1.8 cms nominal length 9.0 mtr nominal thickness 0.125 mm and having self adhesive PVC	Ea.	16.00	0.00	16.00
1-6-16	Providing & erecting insulated socket 3P+N+E with Plug16A rating which is comprised of Four pole MCB slot and insulated socket IP40 cat-III	Ea.	1550.00	140.00	1690.00
1-6-17	Providing & erecting insulated socket 3P+N+E with Plug 32A rating which is comprised of Four pole MCB slot and insulated socket IP40 cat-III	Ea.	1989.00	180.00	2169.00
Section 1-7 TOOLS & TACKLES					
1-7-1	Supply of Fiberglass Step (A Type) Ladder - 4 FT having following specifications. It should have nonconductive Structural moulded top, with Slots to keep tools close at hand, inside Spreader Braces, Aluminium Feet with thick rubber tread, nonconductive Full channel Fibreglass and two pairs of gusset support at the bottom step. All gussets are heavy duty steel. Capacity : 300 lbs. Step Size : 3" Width : 19" "Approx. Spread : 29" Approx. Wt. :8 Kg Approx. Cube : 4.05'	Ea.	10571.00	0.00	10571.00
1-7-2	Supply of Fibreglass Step (A Type) Ladder - 6 FT having following specifications : It should have nonconductive Structural moulded top, with Slots to keep tools close at hand, inside Spreader Braces, Aluminium Feet with thick rubber tread, nonconductive Full channel Fibreglass and two pairs of gusset support at the bottom step. All gussets are heavy duty steel. Capacity : 300 lbs. Step Size : 3" Width : 23" "Approx. Spread : 41" Approx. Wt. : 11 Kg Approx. Cube : 6.2'	Ea.	13802.00	0.00	13802.00
1-7-3	Supply of Fibreglass Step (A Type)Ladder-8 FT having following specifications : It should have nonconductive Structural moulded top, with Slots to keep tools close at hand, inside Spreader Braces, Aluminium Feet with thick rubber tread, nonconductive Full channel Fibreglass and two pairs of gusset support at the bottom step. All gussets are heavy duty steel. Capacity : 300 lbs. Step Size : 3" Width : 26" Approx. Spread : 54" Approx. Wt. : 15 Kg Approx. Cube : 9.5	Ea.	18011.00	0.00	18011.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-7-4	Supply of Fibreglass Step (A Type) Ladder - 10 FT having following specifications : It should have nonconductive Structural moulded top, with Slots to keep tools close at hand, inside Spreader Braces, Aluminium Feet with thick rubber tread, nonconductive Full channel Fibreglass, two pairs of gusset support at the bottom step and All gussets are heavy duty steel. Capacity : 300 lbs. Step Size : 3" Width : 29" Approx. Spread : 66"Approx. Wt. : 19 Kg Approx. Cube : 12.54'	Ea.	22121.00	0.00	22121.00
1-7-5	Supply of Fibreglass Step Trestle (A Type) Ladder - 6 FT having following specifications : It should have heavy gauge steel hinges suitable for industrial application ,inside Spreader Braces, Aluminium Feet with thick rubber tread, nonconductive Full channel Fiberglass,two pairs of gusset support at the bottom step and All gussets are heavy duty steel. It should have steps on both the sides for climbing. Capacity : 300 lbs." Step Width : 3" Bottom Width:23" Approx. Spread : 52"Approx.Wt.:13 Kg Approx. Cube : 6.53'	Ea.	16151.00	0.00	16151.00
1-7-6	Supply of Fibreglass Step Trestle (A Type) Ladder - 8 FT having following specifications : It should have heavy gauge steel hinges suitable for industrial application ,inside Spreader Braces, Aluminium Feet with thick rubber tread, nonconductive Full channel Fibreglass, two pairs of gusset support at the bottom step and All gussets are heavy duty steel. It should have steps on both the sides for climbing. Capacity:300 lbs. Step Width:3" Bottom Width : 26" Approx. Spread : 67" "Approx. Wt. : 20 Kg Approx. Cube : 9.51'	Ea.	21534.00	0.00	21534.00
1-7-7	Supply of Fibreglass Step Trestle (A Type) Ladder - 10 FT having following specifications : It should have heavy gauge steel hinges suitable for industrial application ,inside Spreader Braces ,Aluminium Feet with thick rubber tread, nonconductive Full channel Fibreglass ,two pairs of gusset support at the bottom step and All gussets are heavy duty steel. It should have steps on both the sides for climbing. Capacity : 300 lbs." Step Width : 4" Bottom Width : 29" Approx. Spread : 83" Approx. Wt. : 27 Kg Approx. Cube : 13.44'	Ea.	25450.00	0.00	25450.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
1-7-8	Supply of Fibreglass Platform Step (A Type) Ladder - 6 FT having following specifications : It should have large fully serrated platform 15" wide 20" deep which locks ladder ,Aluminium feet with thick rubber tread, top rail guard to serve as a railing, two pairs of gusset support at the bottom step and All gussets are heavy duty steel. Capacity : 300 lbs. Step Width : 3' Approx. spread : 50" Width : 26.5" Approx. Wt. : 16 Kg Approx. Cube : 8.15"	Ea.	19186.00	0.00	19186.00
1-7-9	Supply of Fibreglass Platform Step (A Type) Ladder - 8 FT having following specifications : It should have large fully serrated platform 15" wide 20" deep which locks ladder, Aluminium feet with thick rubber tread, top rail guard to serve as a railing, two pairs of gusset support at the bottom step and All gussets are heavy duty steel. Capacity : 300 lbs. Step Width : 3' Approx. spread : 62" Width : 29.5" Approx. Wt. : 22 Kg Approx. Cube : 11.62	Ea.	23492.00	0.00	23492.00
1-7-10	Supply of Fibreglass Platform Step (A Type) Ladder - 10 FT having following specifications : It should have large fully serrated platform 15" wide 20" deep which locks ladder , Aluminium feet with thick rubber tread, top rail guard to serve as a railing, two pairs of gusset support at the bottom step and All gussets are heavy duty steel. Capacity : 300 lbs. Step Width : 4' Approx. spread : 75" Width : 32" Approx. Wt. : 29 Kg Approx. Cube : 15.31	Ea.	27701.00	0.00	27701.00
1-7-11.	Supply of Fibreglass Platform Step (A Type) Ladder - 15 FT having following specifications : It should have large fully serrated platform 15" wide 20" deep which locks ladder , Aluminium feet with thick rubber tread, top rail guard to serve as a railing, two pairs of gusset support at the bottom step and All gussets are heavy duty steel. Capacity : 300 lbs	Ea.	31323.00	0.00	31323.00
1-7-12.	Supply of Fibreglass Platform Step (A Type) Ladder - 18 FT having following specifications : It should have large fully serrated platform 15" wide 20" deep which locks ladder , Aluminium feet with thick rubber tread, top rail guard to serve as a railing, two pairs of gusset support at the bottom step and All gussets are heavy duty steel. Capacity : 300 lbs.	Ea.	35238.00	0.00	35238.00

CHAPTER - II Lamps & luminaires

SECTION 2-1 HELOGEN LAMPS

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
2-1-1	Providing and erecting Halogen Pin type lamp 12V 20 W				
	Cat.II	Ea.	43.00	5.00	48.00
	Cat.III	Ea.	68.00	5.00	73.00
2-1-2	Supplying and erecting electronic transformer of 220V / 12V, 50 W suitable for Halogen Lamps.	Ea.	136.00	9.00	145.00
2-1-3.	Providing and erecting Halogen tube 500 Watt./1000 Watt.				
	Cat.II	Ea.	94.00	9.00	103.00
	Cat.III	Ea.	128.00	9.00	137.00
SECTION 2-2 FLUORESCENT TUBES					
2-2-1.	Approved make fluorescent tube 60 cms. 18/20 watt erected, if required.				
	Cat.I	Ea.	43.00	0.00	43.00
	Cat.II	Ea.	47.00	0.00	47.00
	Cat.III	Ea.	51.00	0.00	51.00
2-2-2.	Approved make fluorescent tube 120cms. 18/20 watt erected, if required.				
	Cat.I	Ea.	43.00	0.00	43.00
	Cat.II	Ea.	47.00	0.00	47.00
	Cat.III	Ea.	51.00	0.00	51.00
SECTION 2-3 SODIUM VAPOUR LAMP					
2-3-1.	Approved make High pressure sodium vapour lamp, Tubular/Elliptical type 70W. 230/240/250V. erected, if required.				
	Cat.I	Ea.	331.00	0.00	331.00
	Cat.II	Ea.	365.00	0.00	365.00
	Cat.III	Ea.	390.00	0.00	390.00
2-3-2.	Approved make High pressure sodium vapour lamp, Tubular/Elliptical type 150W. 230/240/250V. erected, if required				
	Cat.I	Ea.	445.00	0.00	445.00
	Cat.II	Ea.	475.00	0.00	475.00
	Cat.III	Ea.	509.00	0.00	509.00
2-3-3.	Approved make High pressure sodium vapour lamp, Tubular/Elliptical type 250W. 230/240/250V. erected, if required				
	Cat.I	Ea.	488.00	0.00	488.00
	Cat.II	Ea.	526.00	0.00	526.00
	Cat.III	Ea.	551.00	0.00	551.00
2-3-4.	Approved make High pressure sodium vapour lamp, Tubular/Elliptical type 400W. 230/240/250V. erected, if required				
	Cat.I	Ea.	551.00	0.00	551.00
	Cat.II	Ea.	645.00	0.00	645.00
	Cat.III	Ea.	763.00	0.00	763.00
SECTION 2-4 COMPACT FLUORESCENT LAMP					
2-4-1.	Approved make CFL Retrofit 5 / 7 / 9 /11 Watt. erected if required				
	Cat.I	Ea.	30.00	0.00	30.00
	Cat.II	Ea.	77.00	0.00	77.00
	Cat.III	Ea.	102.00	0.00	102.00
2-4-2.	Approved make C.F.L. Retrofit 13/15/18 Watt erected if required				
	Cat.I	Ea.	60.00	0.00	60.00
	Cat.II	Ea.	119.00	0.00	119.00
	Cat.III	Ea.	136.00	0.00	136.00
2-4-3.	Approved make C.F.L.Retrofit 20 / 23 / 25 / 26 Watt. erected if required				
	Cat.I	Ea.	94.00	0.00	94.00
	Cat.II	Ea.	140.00	0.00	140.00
	Cat.III	Ea.	187.00	0.00	187.00
2-4-4	Approved make C.F.L.Retrofit of following size erected if required				
	[A] 35/36 Watt				
	Cat.I	Ea.	136.00	0.00	136.00
	Cat.II	Ea.	255.00	0.00	255.00
	Cat.III	Ea.	297.00	0.00	297.00
	[B] 40/45 Watt				
	Cat.I	Ea.	187.00	0.00	187.00
	Cat.II	Ea.	382.00	0.00	382.00
	Cat.III	Ea.	467.00	0.00	467.00
	[C] 55/65/85 Watt				
	Cat.I	Ea.	255.00	0.00	255.00
	Cat.II	Ea.	467.00	0.00	467.00
	Cat.III	Ea.	509.00	0.00	509.00
2-4-5.	Approved make CFL. Non-Retrofit 9/11 Watt erected if required				
	Cat.I	Ea.	30.00	0.00	30.00
	Cat.II	Ea.	56.00	0.00	56.00
2-4-6.	Approved make CFL. Non-Retrofit 13 /15 / 18 Watt erected if required				
	Cat.I	Ea.	43.00	0.00	43.00
	Cat.II	Ea.	81.00	0.00	81.00
	Cat.III	Ea.	111.00	0.00	111.00
2-4-7.	Approved make C.F.L.Non-Retrofit 35 / 36 Watt erected if required				
	Cat.I	Ea.	85.00	0.00	85.00
	Cat.II	Ea.	136.00	0.00	136.00
	Cat.III	Ea.	162.00	0.00	162.00
2-4-8	Approved make Spiral Retrofit CFL. for BC / Screw Type Holder of following size erected if required				
	[a] 15/20/23/27 Watt				
	Cat.II	Ea.	162.00	0.00	162.00
	Cat.III	Ea.	212.00	0.00	212.00
	[b] 35 / 36 Watt				
	Cat.II	Ea.	280.00	0.00	280.00
	Cat.III	Ea.	323.00	0.00	323.00
	[c] 65/50 Watt.				
	Cat.II	Ea.	509.00	0.00	509.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
		Cat.III Ea.	636.00	0.00	636.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
2-4-9.	Approved make CFL. Ballast Having P.F. above 0.95 (Adopter) 9/11/13/15/18 Watt erected if required				
	Cat.I	Ea.	51.00	0.00	51.00
	Cat.II	Ea.	89.00	0.00	89.00
	Cat.III	Ea.	132.00	0.00	132.00
2-4-10.	Approved make CFL. Ballast Having P.F. above 0.95 for 20 watt up to 86 watt erected if required				
	Cat.I	Ea.	297.00	0.00	297.00
	Cat.II	Ea.	382.00	0.00	382.00
	Cat.III	Ea.	467.00	0.00	467.00
SECTION 2-5 METAL HALIDE LAMPS					
2-5-1.	Approved make Elliptical type Metal Halide lamps erected if required				
	(i)70 Watt				
	Cat.I	Ea.	551.00	0.00	551.00
	Cat.II	Ea.	721.00	0.00	721.00
	Cat.III	Ea.	806.00	0.00	806.00
	(ii)150 Watt				
	Cat.I	Ea.	636.00	0.00	636.00
	Cat.II	Ea.	763.00	0.00	763.00
	Cat.III	Ea.	933.00	0.00	933.00
	(iii) 250 Watt.				
	Cat.I	Ea.	806.00	0.00	806.00
	Cat.II	Ea.	933.00	0.00	933.00
	Cat.III	Ea.	1102.00	0.00	1102.00
	(iv) 400 Watt.				
	Cat.I	Ea.	890.00	0.00	890.00
	Cat.II	Ea.	1060.00	0.00	1060.00
	Cat.III	Ea.	1272.00	0.00	1272.00
2-5-2.	Approved make Double Ended type Metal Halide lamps erected if required				
	(i)70 Watt				
	Cat.I	Ea.	339.00	0.00	339.00
	Cat.II	Ea.	551.00	0.00	551.00
	Cat.III	Ea.	636.00	0.00	636.00
	(ii)150 Watt				
	Cat.I	Ea.	382.00	0.00	382.00
	Cat.II	Ea.	594.00	0.00	594.00
	Cat.III	Ea.	721.00	0.00	721.00
	(iii) 250 Watt.				
	Cat.I	Ea.	1272.00	0.00	1272.00
	Cat.II	Ea.	1526.00	0.00	1526.00
	Cat.III	Ea.	1653.00	0.00	1653.00
2-5-3.	Approved make Tubular type Metal Halide lamps erected if required				
	(i)70 Watt				
	Cat.I	Ea.	551.00	0.00	551.00
	Cat.II	Ea.	721.00	0.00	721.00
	Cat.III	Ea.	806.00	0.00	806.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(ii)150 Watt				
	Cat.I	Ea.	636.00	0.00	636.00
	Cat.II	Ea.	763.00	0.00	763.00
	Cat.III	Ea.	933.00	0.00	933.00
	(iii) 250 Watt.				
	Cat.I	Ea.	806.00	0.00	806.00
	Cat.II	Ea.	933.00	0.00	933.00
	Cat.III	Ea.	1102.00	0.00	1102.00
	(iv)400 Watt				
	Cat.I	Ea.	890.00	0.00	890.00
	Cat.II	Ea.	1060.00	0.00	1060.00
	Cat.III	Ea.	1272.00	0.00	1272.00
SECTION 2-6 LAMP FITTINGS					
2-6-1.	Providing and erecting decorative wall bracket fittings complete with LED lamp and rust free fittings components mounted in chrome finish housing with holder ,clear/opaque glass diffuser complete erected with lead wires with minimum 15 wattage capacity as per instruction engineer incharge/architect/authority .cat-III	Ea.	1662.00	34.00	1696.00
SECTION 2-7 ENERGY SAVING FLUORESCENT TUBE FITTINGS (With Electronic Ballast)					
2-7-1.	Supplying and erecting approved make of tube fitting with One no T-5 tube 24/ 28 W with Electronic ballast with each tube separately THD less than 10 & built in adaptors, GI / PVC housing & mirror optic reflector, suitable to work on 120V - 300V, A.C. supply with connector and adapter if required. [Make of fitting & tube may be differ & fitting shall be providing with tube]				
	Cat II	Ea.	365.00	26.00	391.00
	Cat III	Ea.	450.00	26.00	476.00
2-7-2.	Supply of approved make lumilux triphospher T-5 tube suitable to operate on 120V - 300 V of				
	(A) 14 Watt				
	Cat I	Ea.	94.00	0.00	94.00
	Cat II	Ea.	111.00	0.00	111.00
	Cat III	Ea.	136.00	0.00	136.00
	(B) 24Watt / 28 watt				
	Cat I	Ea.	102.00	0.00	102.00
	Cat II	Ea.	128.00	0.00	128.00
	Cat III	Ea.	153.00	0.00	153.00
2-7-3	Supplying & erecting energy saving Energy Efficient E+ (1 - 4 ft) 28 watt retrofit tube fitting with one no 28watt T-5 tube complete with E.G.P. wings reflector / clear acrylic guard cover & tube and electronic inbuilt circuit ballast of rating 130 to 325 V A.C. The fittings should be able to fit in any conventional existing T - 8 tube fittings complete erected in an approved manner.	Ea.	467.00	22.00	489.00
2-7-4	Repairing of any brand of T-5 Indoor or Outdoor type Tube fitting of any nos of T - 5 tubes by replacing the electrical components like Resistance, Diode, Capacitor, Transistor, SCR tube side holder, small transformer and other any part and put the same in working condition as original on site / work shop with re-erection if required. (Rates excluding tube cost)				
	Cat.I	Ea.	467.00	26.00	493.00
	Cat.II	Ea.	789.00	26.00	815.00
	Cat.III	Ea.	924.00	26.00	950.00
2-7-5.	Outdoor street light fitting side entry with clear acrylic /plastic / polystyrene cover complete with starter, polyester choke copper wound complete erected with 40/36 watt tube holders. with lead wire and connections.				
	(a) With 1 tube 40 watt.120 cms				
	Cat.I	Ea.	517.00	34.00	551.00
	Cat.II	Ea.	619.00	34.00	653.00
	Cat.III	Ea.	899.00	34.00	933.00
	(b) with 2 tube 40 watt.120 cms.				
	Cat.I	Ea.	712.00	34.00	746.00
	Cat.II	Ea.	806.00	34.00	840.00
	Cat.III	Ea.	1178.00	34.00	1212.00
2-7-6	(A) Providing 45 to 50 cms. 16 SWG conduit pipe down rod white painted with ball sockets and nipple for suspension of fluorescent fitting complete erected with lead wires.	Mtr.	128.00	26.00	154.00
	(B) Extra for every additional 100 mm. long double down rod.	Mtr.	8.00	1.00	9.00
2-7-7	Providing & erecting 14 SWG galvanized mild steel chain with end rings for hanging tube fitting as directed.	Mtr.	23.00	3.00	26.00
SECTION 2-8 COMPACT FLOURCENT FITTINGS					
2-8-1.	Providing and erecting approved make C.F.L out door type street light fitting side entry with clear acrylic / plastic cover electronic ballast high circuit P.F. weather proof design (IP 65) THD less than 10% rust free fitting components mounted in powder coated CRCA / Al. housing with lead wire & with Non Retrofit CFL tube complete.				
	[A] With One CFL tube 9 / 11/ 13 / 18 watt Non Retrofit with ballast & Holder				
	Cat.I	Ea.	365.00	34.00	399.00
	Cat.II	Ea.	602.00	34.00	636.00
	Cat.III	Ea.	831.00	34.00	865.00
	[B] With Two CFL tube 9 / 11/ 13 / 18 watt Non Retrofit with ballast & Holder				
	Cat.I	Ea.	441.00	34.00	475.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
		Cat.II Ea.	721.00	34.00	755.00
		Cat.III Ea.	1170.00	34.00	1204.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[C] With One CFL tube 36 watt Retrofit or Non Retrofit with ballast & Holder				
	Cat.I	Ea.	772.00	34.00	806.00
	Cat.II	Ea.	984.00	34.00	1018.00
	Cat.III	Ea.	1153.00	34.00	1187.00
	[D] Two CFL tube 36 watt Retrofit or Non Retrofit with ballast & Holder				
	Cat.I	Ea.	941.00	34.00	975.00
	Cat.II	Ea.	1153.00	34.00	1187.00
	Cat.III	Ea.	1323.00	34.00	1357.00
	[E] With One CFL retrofit tube 65 watt / 85 watt with Holder				
	Cat.I	Ea.	839.00	34.00	873.00
	Cat.II	Ea.	1077.00	34.00	1111.00
	Cat.III	Ea.	1255.00	34.00	1289.00
2-8-2.	Providing & erecting approved make CFL out doors type Post top lantern / flying saucer type fittings cast Aluminium / M.S. Powder Coated pole mounting type with BS lamp holder & Clear acrylic diffuser with CFL lamp complete.				
	[A] With One No. retrofit 11/18 watt CFL				
	Cat.I	Ea.	280.00	34.00	314.00
	Cat.II	Ea.	653.00	34.00	687.00
	Cat.III	Ea.	1229.00	34.00	1263.00
	[B] With One No. retrofit 36 watt CFL				
	Cat.I	Ea.	373.00	34.00	407.00
	Cat.II	Ea.	780.00	34.00	814.00
	Cat.III	Ea.	1323.00	34.00	1357.00
	[C] With One No. retrofit 65 / 85 watt CFL				
	Cat.I	Ea.	543.00	34.00	577.00
	Cat.II	Ea.	950.00	34.00	984.00
	Cat.III	Ea.	1450.00	34.00	1484.00
2-8-3.	Providing and erecting approved make decorative recess mounting Down Lighter fittings with anodized Aluminium reflector suitable for compact flourcent lamp with copper ballast holder and necessary lead wire.				
	(A)With One Lamp retrofit 9/11/13 W C.F.L.				
	Cat.II	Ea.	331.00	34.00	365.00
	Cat.III	Ea.	475.00	34.00	509.00
	(B)With One Lamp non retrofit 15/18/26 W C.F.L.				
	Cat.II	Ea.	458.00	34.00	492.00
	Cat.III	Ea.	611.00	34.00	645.00
	(C)With Two Lamp non retrofit 15/18/26 W C.F.L.				
	Cat.II	Ea.	687.00	34.00	721.00
	Cat.III	Ea.	806.00	34.00	840.00
2-8-4	Providing & erecting Mirror light fitting with One No. of 9/11/13 CFL Non Retrofit CRCA powder coated fitting with necessary ballast and accessories erected with necessary lead wire.				
	Cat.II	Ea.	212.00	34.00	246.00
	Cat.III	Ea.	297.00	34.00	331.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
2-8-5	Supply & fixing decorative Hanging light with glass having cylindrical or square shape having length not less than 10" & width not less 3.5" with holder, lead wire as per required length but not more than 1mm & base plate for fixing the fitting with ceiling.[a] suitable for led lamp				
	Cat-II	Ea.	1272.00	85.00	1357.00
	Cat-III	Ea.	1678.00	102.00	1780.00
SECTION 2-9 SODIUM VAPOUR LAMP FITTINGS					
2-9-1.	Providing and erecting Approved make street light luminaire with one no suitable for- HPSV / MH lamp complete with control gear and accessories , Single piece Deep drawn Aluminium housing with two compartments duly stove enameled painted side reflector protective acrylic cover, synthetic felt gasket, necessary hardware. The fitting should be suitable for side entry having suitable socket bore for clamping complete erected.				
	(A) With 70 watt SVL. /Metal Halide lamp				
	Cat.I	Ea.	1823.00	85.00	1908.00
	Cat.II	Ea.	2229.00	85.00	2314.00
	Cat.III	Ea.	2856.00	85.00	2941.00
	(B) With 150 watt SVL. /Metal Halide lamp				
	Cat.I	Ea.	3263.00	85.00	3348.00
	Cat.II	Ea.	3602.00	85.00	3687.00
	Cat.III	Ea.	4611.00	85.00	4696.00
	(C) With 250 watt SVL. /Metal Halide lamp				
	Cat.I	Ea.	4204.00	128.00	4332.00
	Cat.II	Ea.	4407.00	128.00	4535.00
	Cat.III	Ea.	5763.00	128.00	5891.00
	(D) With 400 watt SVL. /Metal Halide lamp				
	Cat.I	Ea.	3517.00	128.00	3645.00
	Cat.II	Ea.	3941.00	128.00	4069.00
	Cat.III	Ea.	4958.00	128.00	5086.00
2-9-2	Providing and erecting Approved make street light luminaire with one no suitable for- HPSV / MH lamp complete with control gear and accessories , Single piece Die cast Aluminium housing with two compartments duly stove enameled painted side reflector protective Glass cover, synthetic felt gasket, necessary hardware. The fitting should be suitable for side entry having suitable socket bore for clamping complete erected.				
	(A) With 70 watt SVL. /Metal Halide lamp				
	Cat.II	Ea.	2975.00	85.00	3060.00
	Cat.III	Ea.	3772.00	85.00	3857.00
	(B) With 150 watt SVL. /Metal Halide lamp				
	Cat.II	Ea.	4382.00	128.00	4510.00
	Cat.III	Ea.	5890.00	128.00	6018.00
	(C) With 250 watt SVL. /Metal Halide lamp				
	Cat.II	Ea.	5272.00	128.00	5400.00
	Cat.III	Ea.	6653.00	128.00	6781.00
	(D) With 400 watt SVL. /Metal Halide lamp				
	Cat.II	Ea.	5890.00	212.00	6102.00
	Cat.III	Ea.	7416.00	212.00	7628.00
2-9-3.	Supplying and erecting approved make, watertight, integral flying saucer type post top lantern , suitable for 70 Watt. HPSV lamp, with ignitor, lamp holder, canopy and other necessary accessories.				
	Cat.II	Ea.	1407.00	34.00	1441.00
	Cat.III	Ea.	2212.00	34.00	2246.00
2-9-4.	Supplying and erecting, industrial low bay mirror optic luminaires made from CRCA sheet steel with aluminium reflector & transparent acrylic cover for indoor installation with Copper ballast, igniter, capacitor, Holder, integral type with one no. 70 watt SON lamp/metal halide lamp.				
	Cat.I	Ea.	1424.00	85.00	1509.00
	Cat.II	Ea.	1543.00	85.00	1628.00
	Cat.III	Ea.	2043.00	85.00	2128.00
2-9-5.	Supplying and erecting industrial high bay luminaire , installation with ballast, ignitor, holder, integral type.				
	(A) With 150 watt SON lamp/metal halide lamp				
	Cat.I	Ea.	2619.00	128.00	2747.00
	Cat.II	Ea.	2975.00	128.00	3103.00
	Cat.III	Ea.	3746.00	128.00	3874.00
	(B) With 250 watt SON lamp/metal halide lamp				
	Cat.I	Ea.	2924.00	128.00	3052.00
	Cat.II	Ea.	3390.00	128.00	3518.00
	Cat.III	Ea.	4221.00	128.00	4349.00
SECTION 2-10 HALOGEN TUBE FITTING					
2-10-1.	Providing and erecting indoor type halogen fitting made from M.S. sheet with Aluminium reflector and holder with halogen tube of following size.				
	(A) With 500 watt Halogen Tube				
	Cat.I	Ea.	314.00	34.00	348.00
	Cat.II	Ea.	424.00	34.00	458.00
	Cat.III	Ea.	577.00	34.00	611.00
	(B) With 1000 watt Halogen Tube				
	Cat.I	Ea.	526.00	34.00	560.00
	Cat.II	Ea.	645.00	34.00	679.00
	Cat.III	Ea.	780.00	34.00	814.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
2-10-2.	Providing and erecting out door type halogen fitting made from cast alloys with electro-chemically polished Aluminium reflector complete with tuffend glass, silicon gasket with Halogen tube of following size				
	(A) With 500 watt Halogen Tube				
	Cat.I	Ea.	348.00	34.00	382.00
	Cat.II	Ea.	602.00	34.00	636.00
	Cat.III	Ea.	772.00	34.00	806.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(B) With 1000 watt Halogen Tube				
	Cat.I	Ea.	856.00	34.00	890.00
	Cat.II	Ea.	1221.00	34.00	1255.00
	Cat.III	Ea.	1424.00	34.00	1458.00
SECTION 2-11 : FLOOD LIGHTS					
2-11-1	Providing and erecting, heavy duty flood light integral luminaire comprises die cast aluminium body with heat resistant toughened front glass, silicon rubber gasket, anodised reflector hot deep powder coated cradle clamp with suitable size of necessary built in control gear complete with lamp.				
	(a) with one no. 70 watt HPSV / Metal halide lamp				
	Cat.II	Ea.	2238.00	51.00	2289.00
	Cat.III	Ea.	2916.00	51.00	2967.00
	(b) With one no. 150 watt HPSV / Metal halide lamp				
	Cat.II	Ea.	2492.00	51.00	2543.00
	Cat.III	Ea.	3255.00	51.00	3306.00
	(c) With one no. 250 watt HPSV / Metal halide lamp				
	Cat.II	Ea.	4017.00	51.00	4068.00
	Cat.III	Ea.	4611.00	51.00	4662.00
	(d) With one no. 400 watt HPSV / Metal halide lamp				
	Cat.II	Ea.	4653.00	51.00	4704.00
	Cat.III	Ea.	5670.00	51.00	5721.00
2-11-2	Providing & erecting heavy duty flood light nonintegral luminaires comprised die cast aluminium powder coated body with heat resistant toughened front glass, silicon rubber gasket anodised reflector, hot deep powder coated cradle clamp with external control Gear box having lamp holder & terminal blocks complete with lamp.				
	[A] With 2 Nos 250 watt tubular HID HPSV / M.H. Lamp				
	Cat-II	Ea	5721.00	212.00	5933.00
	Cat-III	Ea	7882.00	212.00	8094.00
	[A] With 2 Nos 400 watt tubular HID HPSV / M.H. Lamp				
	Cat-II	Ea	7839.00	212.00	8051.00
	Cat-III	Ea	9365.00	212.00	9577.00
2-11-3	Diacast aluminum HID control gear box for				
	[a] 2 x 250 watt with ballast capacitor ignitor fuse cutout pre wired with terminal block				
	Cat-II	Ea	2882.00	85.00	2967.00
	Cat-III	Ea	3517.00	85.00	3602.00
	[b] With 2 Nos 400 watt tubular HID HPSV / M.H. Lamp				
	Cat-II	Ea	3645.00	85.00	3730.00
	Cat-III	Ea	3814.00	85.00	3899.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total	
SECTION 2-12 OTHER MISCELANIOUS FITTINGS						
2-12-1.	Supplying P.L.Table lamp having sleek flexible versatile type with powder coated reflector and base cover with ABS moulded components and mirror optics reflector having integral ballast P.L. Holder fitted with P.L. tube 1 no. 9/11 W cord wire with plug.					
		Cat-II	Ea.	229.00	0.00	229.00
		Cat-III	Ea.	373.00	0.00	373.00
2-12-2.	Supplying decorative table lamp with LED lamps of suitable nos equivalent of 11 W light with flexible copper wire cord with plug top.					
		Cat.I	Ea.	424.00	0.00	424.00
		Cat.II	Ea.	509.00	0.00	509.00
		Cat.III	Ea.	678.00	0.00	678.00
2-12-3.	Supplying & Fixing Jali cover suitable for T-5 / T-8 CFL tube indoor / outdoor fitting complete with necessary material. Jali cover shall be made from G.I. wire & end side plates of G.I. sheet 20 gauge with 13 con high safe suitable as fitting.	Ea.	128.00	0.00	128.00	
SECTION 2-13 ACCESSORIES						
2-13-1.	Conveyance Charges for departmentally supplied Fluorescent Fittings, Street Light and Flood Light Fittings (from Divisional Store to work site.)....	Ea.				
2-13-2	Shock proof hand lamp with wire guard and 3 mtr of 3 core round flexible wire of suitable size and 3 pin plug top and heavy duty pendant holder	Ea.	51.00	0.00	51.00	
2-13-3.	supplying and erecting CFL ballast suitable for 9/11/13 watt tube					
		Cat-II	Ea.	89.00	6.00	95.00
		Cat-III	Ea.	114.00	6.00	120.00
2-13-4.	supplying and erecting C F L Ballast 15/16/18/26 W					
		Cat-II	Ea.	114.00	6.00	120.00
		Cat-III	Ea.	139.00	6.00	145.00
2-13-5.	Supplying and erecting approved make, heavy duty polyester filled ballast suitable for 80Watt. HPMV lamp					
		Cat-II	Ea.	200.00	13.00	213.00
		Cat-III	Ea.	242.00	13.00	255.00
2-13-6.	Supplying and erecting approved make, heavy duty polyester filled ballast suitable for 125 Watt. HPMV lamp.					
		Cat-II	Ea.	250.00	13.00	263.00
		Cat-III	Ea.	369.00	13.00	382.00
2-13-7.	Supplying and erecting approved make, heavy duty polyester filled ballast suitable for 250 Watt. HPMV lamp.					
		Cat-II	Ea.	348.00	26.00	374.00
		Cat-III	Ea.	602.00	26.00	628.00
2-13-8.	Supplying and erecting approved make, heavy duty polyester filled ballast suitable for 400 Watt. HPMV lamp.					
		Cat-II	Ea.	517.00	34.00	551.00
		Cat-III	Ea.	933.00	34.00	967.00
2-13-9.	Supplying and erecting approved make, heavy duty polyester filled ballast suitable for HPSV/ Metal Halide lamp.					
	(A) 70 Watt.					
		Cat-II	Ea	297.00	26.00	323.00
		Cat-III	Ea	467.00	26.00	493.00
	(B)150 Watt.					
		Cat-II	Ea	678.00	26.00	704.00
		Cat-III	Ea	890.00	26.00	916.00
	(C)250 Watt					
		Cat-II	Ea	916.00	26.00	942.00
		Cat-III	Ea	1246.00	26.00	1272.00
	(D)400 Watt					
		Cat-II	Ea	1526.00	43.00	1569.00
		Cat-III	Ea	1780.00	43.00	1823.00
2-13-10	Supplying and erecting approved make ignitor suitable for HPSV/ Metal Halide fittings, 70W / 150W / 250W / 400W	Ea.	136.00	26.00	162.00	
2-13-11	Supplying & erecting control gear box, weather proof made of Cast aluminium with heavy duty copper polyester choke, condenser, MCB, connector block & earthing terminal complete erected with necessary screws, nuts & bolts clamps suitable for					
	(A) For HPSV/MH Lamp with ignitor For One No. Lamp.					
	(i) 70W					
		Cat-II	Ea	589.00	47.00	636.00
		Cat-III	Ea	759.00	47.00	806.00
	(ii)150 W					
		Cat-II	Ea	759.00	47.00	806.00
		Cat-III	Ea	886.00	47.00	933.00
	(iii)250 W					
		Cat-II	Ea	971.00	47.00	1018.00
		Cat-III	Ea	1183.00	47.00	1230.00
	(iv)400W					
		Cat-II	Ea	1352.00	47.00	1399.00
		Cat-III	Ea	1522.00	47.00	1569.00
2-13-12.	Supplying & erecting approved make HFHC Electronic ballast having operation voltage range 120V to 300V at 0.95 power factor for (a) One No. 20/40 watt tube light					
		Cat.I	Ea.	166.00	13.00	179.00
		Cat.II	Ea.	234.00	13.00	247.00
		Cat.III	Ea.	293.00	13.00	306.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 2-14 SOLAR STREET LIGHTS					
2-14-1	Supplying and erecting MNES certified SOLAR STREET LIGHT fitting made from M.S. Body powder coated / painted with corrosion resistant paint with gasket & transparent cover with following CFL non retro lamp with choke, holder & accessories. Fitting shall be mounted on 75/80 mm B class G.I. pipe pole up to 5.5 mtr load complete erected with C.C. Foundation duly painted with two coats of red oxide and corrosive resistant paint. Complete with tubular battery, inverter, charge controller with photo sensor switch & necessary wiring complete erected connected & commissioned in approved manner.				
	[A] 1 x 11 w CFL PV Module : 74 W Battery Capacity : 12V, 75 AH	Ea.	20128.00	212.00	20340.00
	[B] 2 x 11 W CFL (Single luminaire with 2 CFL) PV Module:120 W Battery Capacity 12V, 100 AH	Ea.	27755.00	212.00	27967.00
	[C] 2 x 11 W CFL (Double Luminaire with One CFL each), PV Module : 120W Battery Capacity : 12V, 100 AH	Ea.	28602.00	212.00	28814.00
2-14-2	Supplying & erecting Solar Home light system with structure as per MNES specification consisting of following non retrofit CFL fitting complete with following CFL lamps & battery capacity dully connected with built in inverter & commissioned as per directed with necessary wiring & fittings.				
	(A) One No CFL 11 watt non retrofit ceiling / wall mounting features with battery capacity 12 watt, 20 AH	Ea.	5594.00	255.00	5849.00
	(B) Two No CFL 11 watt non retrofit ceiling / wall mounting features with battery capacity 12 watt, 40 AH	Ea.	10170.00	255.00	10425.00
	(C) Three No CFL 11 watt non retrofit ceiling / wall mounting features with battery capacity 12 watt, 20 AH	Ea.	10424.00	255.00	10679.00
SECTION 2-15 LED LUMINARIES					
Indoor LED Fittings					
2-15-1	Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/ aluminium die cast powder coated and high U.V. & corrosion resistance with diffuser with company mark/name 160V to 270V, Power Factor more than 0.95, THD < 15%, CCT 3000 K to 6500K, Luminaire efficacy> 85 lumens/watt ,LED LED driver efficiency > 85 % (fitting required LM-79 & LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.)				
	(A) Tube Light with integral driver				
	(i) 5-10 Watts, Surge-2 KV, IP-20, conventional 1 to 2 feet				
	Cat-II	Ea.	100.00	26.00	126.00
	Cat-III	Ea.	138.00	26.00	164.00
	(ii) 12-14 Watts, Surge-2 KV, IP-20, conventional 4 feet				
	Cat-II	Ea.	172.00	26.00	198.00
	Cat-III	Ea.	210.00	26.00	236.00
	(iii) 18-20 Watts, Surge - 2KV,IP-20, conventional 4 feet				
	Cat-II	Ea.	210.00	26.00	236.00
	Cat-III	Ea.	267.00	26.00	293.00
	(iv) 22-24 Watts, Surge - 2KV,IP-20, conventional 4 feet				
	Cat-II	Ea.	283.00	26.00	309.00
	Cat-III	Ea.	344.00	26.00	370.00
	(v) 36-40 Watts, Surge-2 KV, IP-20, conventional 4 feet				
	Cat-II	Ea.	428.00	26.00	454.00
	Cat-III	Ea.	504.00	26.00	530.00
2-15-2	Supplying and erecting led lamps with following wattage capacity of 220 to 240 voltage, minimum 15000 burning hours life, 500 V in built-surge protection,Polycarbonate diffuser, mounting suitable for E14 / E27 / B22 lamp holders, pf >= 0.5				
	(A) LED Lamps integral type, with PC diffuser suitable LAMP holder				
	(i) 2 to 3 watts				
	Cat-II	Ea.	50.00	0.00	50.00
	Cat-III	Ea.	69.00	0.00	69.00
	(ii) 5 to 8 watts				
	Cat-II	Ea.	80.00	0.00	80.00
	Cat-III	Ea.	111.00	0.00	111.00
	(iii) 10 to 15 watts				
	Cat-II	Ea.	123.00	0.00	123.00
	Cat-III	Ea.	187.00	0.00	187.00
	(iv) 16 to 20 watts				
	Cat-II	Ea.	179.00	0.00	179.00
	Cat-III	Ea.	256.00	0.00	256.00
	(v) 21 to 30 watts				
	Cat-II	Ea.	306.00	0.00	306.00
	Cat-III	Ea.	400.00	0.00	400.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
2-15-3	Supplying and erecting LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt assembled on single MCPCB, with housing used as a heat sink shall be made of thick sheet Steel conforming to IS: 513/CRCA/aluminium pressure die cast powder coated and high U.V. & corrosion resistance with diffuser housed in aluminium casted body with company mark/name 160V to 270V,Power Factor more than 0.95, THD < 15 %, CCT 3000 K to 6500K, Luminaire efficacy> 85 lumens/watt , LED driver efficiency> 85 % (fitting required LM-79 & LM-80 Certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.)				
	(A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20				
	(i) 5-9 watts,Surge-2 KV				
	Cat-II	Ea.	145.00	34.00	179.00
	Cat-III	Ea.	184.00	34.00	218.00
	(ii) 11-15 watts, Surge-2 KV				
	Cat-II	Ea.	351.00	34.00	385.00
	Cat-III	Ea.	389.00	34.00	423.00
	(iii) 16-20 watts, Surge-2 KV				
	Cat-II	Ea.	489.00	34.00	523.00
	Cat-III	Ea.	550.00	34.00	584.00
	(iv) 22-24 watts, Surge-2 KV				
	Cat-II	Ea.	611.00	34.00	645.00
	Cat-III	Ea.	717.00	34.00	751.00
	(B) LED Panel Light with provision for Plane front frame with translucent cover fixed to housing complete.IP20				
	(i)up to 8 Watts,4" x 4", Surge-2 KV				
	Cat-II	Ea.	202.00	34.00	236.00
	Cat-III	Ea.	237.00	34.00	271.00
	(ii) 10 watts, 4" x 4", Surge-2 KV				
	Cat-II	Ea.	237.00	34.00	271.00
	Cat-III	Ea.	313.00	34.00	347.00
	(iii) 12-15 watts, 6" x 6", Surge-2 KV				
	Cat-II	Ea.	351.00	34.00	385.00
	Cat-III	Ea.	428.00	34.00	462.00
	(iv) 18 to 20 watts, 8" x 8", Surge- 2 KV				
	Cat-II	Ea.	462.00	34.00	496.00
	Cat-III	Ea.	573.00	34.00	607.00
	(v) 24 watts, 12" x 12" , Surge-2 KV				
	Cat-II	Ea.	611.00	34.00	645.00
	Cat-III	Ea.	683.00	34.00	717.00
	(vi) 36 watts, 24" x 24", Surge- 2KV				
	Cat-II	Ea.	1343.00	34.00	1377.00
	Cat-III	Ea.	1743.00	34.00	1777.00
	(vii) from 45 to 48 watts, 24" x 24", Surge-2 KV				
	Cat-II	Ea.	1633.00	34.00	1667.00
	Cat-III	Ea.	2037.00	34.00	2071.00
	(D) LED Strip Light				
	(i) Minimum 4.8W-120 LED per meter (2 wire, IP-65) with non integral suitable Driver complete				
	Cat-II	Mtr.	54.00	34.00	88.00
	Cat-III	Mtr.	100.00	34.00	134.00
	(ii) Minimum 7.2W -240 LED per meter,(2 wire, IP-65) with non integral suitable Driver complete				
	Cat-II	Mtr.	111.00	34.00	145.00
	Cat-III	Mtr.	184.00	34.00	218.00
	(E) Under Water Light,12V DC including Driver,IP-67 with die-cast/deep drawn housing with impact resistance clear toughened glass.				
	(i) 5-8 watts				
	Cat-II	Ea.	622.00	34.00	656.00
	Cat-III	Ea.	805.00	34.00	839.00
	(ii) 12 watts				
	Cat-II	Ea.	843.00	34.00	877.00
	Cat-III	Ea.	988.00	34.00	1022.00
	(F) Spot Light 425 Lumens, Surge-2KV				
	(i) 3 to 7 Watts				
	Cat-II	Ea.	611.00	34.00	645.00
	Cat-III	Ea.	771.00	34.00	805.00
	(ii) 8 to 11 Watts				
	Cat-II	Ea.	973.00	34.00	1007.00
	Cat-III	Ea.	1320.00	34.00	1354.00
	(G) Step Light having Aluminium die cast and ABS Plastic material.				
	(i) 5 watts, Direct/Indirect luminaire				
	Cat-II	Ea.	405.00	34.00	439.00
	Cat-III	Ea.	534.00	34.00	568.00
	(H) Mirror Light 9 Watts, wall mounted minimum 1 feet long				
	Cat-II	Ea.	283.00	26.00	309.00
	(I) Adjustable spot light with COB led having aluminium reflector of following wattage				
	(i) 8 Watts				
	Cat-II	Ea.	681.00	34.00	715.00
	Cat-III	Ea.	817.00	34.00	851.00
	(ii) 12 Watts				
	Cat-II	Ea.	769.00	34.00	803.00
	Cat-III	Ea.	923.00	34.00	957.00
	(iii) 15 Watts				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat-II	Ea.	878.00	34.00	912.00
	Cat-III	Ea.	1053.00	34.00	1087.00
	(iv) 30 Watts				
	Cat-II	Ea.	1755.00	34.00	1789.00
	Cat-III	Ea.	2106.00	34.00	2140.00
2-15-4.	Suppling & Erecting new 18W LED retrofit PLL lamps with housing made of Elegantly designed polycarbonate housing in opal finish to provide glare free uniform light distribution and in-built Aluminium Heat sink for better thermal management. Lamps shall deliver excellent illumination & visual comfort with CRI of >80, High transmittance Opal Polycarbonate diffuser for glare-free symmetric light distribution. Lamps should be with 120 lm/W System Efficacy and designed for Avg. LED Life (L70 B35) 35,000 Burning Hours & with high efficient Photobiologically safe LEDs. Lamps should be Powered by an integral electronic constant current driver offering THD<15%, Output Short-circuit protection, Surge Voltage protection, and other reliability tests as per IS:15885 Part 2/Sec 13. Lamps should be provided with 3kV surge protection. Lamp manufacturer to have an in-house NABL-accredited Laboratory for testing Photometric parameters. Cat-III (Note:- During Excuvation of work if it reuired to cut false ceiling for providing fitting and after erection of fitting if require to fill additional false ceiling gap than that work should be in scope of Agency.)	Ea.	705.00	50.00	755.00
2-15-5.	Supplying and erecting LED recessed mount indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt (CREE / OSRAM / PHILIPHS make LED used in fitting) assembled on MCPCB,Product should Suitable to replace Conventional (2X 36W) T-5 Light fitting with 30W LED panel Light fitting with backlit luminaire and customised housing having dimension of [(505mm (L) X 295mm (W) x 40mm (H)], suitable for retrofit into existing cut out, made of elegantly designed CRCA powder coated housing and having Micro diffuser to provide glare free uniform light distribution. Luminaire shall deliver excellent illumination & visual comfort with CRI of >80, Suitable to operating voltage on 140V to 300V A.C.,Power Factor more than 0.95, THD < 15 %,CCT 3000 K to 6500K, Luminaire efficacy> 100 lumens/watt , with external LED driver with efficiency > 85 % (fitting required LM-79 & LM-80 Certificates). High transmittance Micro diffuser for glare-free symmetric light distribution. Lamps should be with 100 lm/W System Efficiency and designed for Avg. LED Life (L70 B50) of 50,000 Burning Hours & with high efficient Photo biologically safe LEDs with 3SDCM bin. Lamps should be powered by an	Ea.	3240.00	50.00	3290.00
2-15-6.	Supplying and erecting recessed mount LED indoor fittings with LEDs of wattage 0.2 Watt to 0.5 Watt (CREE / OSRAM / PHILIPHS make LED used in fitting) assembled on MCPCB,Product should Suitable to replace Conventional (2X 28W) T-5 Light fitting with 40W LED panel Light with backlit luminaire and customised housing having dimension of [1195mm (L) X 225mm (W)x 95mm (H)] suitable for retrofit into existing cut out, made of elegantly designed CRCA powder coated housing and having Micro diffuser to provide glare free uniform light distribution. Luminaire shall deliver excellent illumination & visual comfort with CRI of >80, Suitable to operating voltage on 140V to 300V A.C.,Power Factor more than 0.95, THD < 15 %,CCT 3000 K to 6500K, Luminaire efficacy> 100 lumens/watt , with external LED driver with efficiency > 85 % (fitting required LM-79 & LM-80 Certificates) High transmittance Micro diffuser for glare-free symmetric light distribution. Lamps should be with 100 lm/W System Efficacy and designed for Avg. LED Life (L70 B50) of 50,000 burning Hours with high efficient Photo biologically safe LEDs with 3SDCM bin. Luminaire should have integrated powered by	Ea.	4355.00	50.00	4405.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
LED OUTDOOR FITTINGS					
Note: Add Rs.200 for 10kv non integral surge protection					
2-16-1.	Supplying and erecting LED street light / Flood light fittings with High power White LEDs wattage of 3 Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminium housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/ lenses with company mark/name engraved or embossed 160 to 270 V,Power Factor more than 0.95, THD < 10 %, CCT 3000 K to 5700K,Uniformity ratio >0.45, Luminaire efficacy> 100 lumens/watt . LED driver efficiency > 85 %.(fittings required LM-79 & LM-80 certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.)				
	(A) Street Light (IP-65), Surge protection -4KV integral and ,Light must have 440VAC line supply with over-voltage protection.				
	(i) 10 to 12 Watts				
	Cat-II	Ea.	843.00	85.00	928.00
	Cat-III	Ea.	1099.00	85.00	1184.00
	(ii) 15 to 24 Watts				
	Cat-II	Ea.	1465.00	85.00	1550.00
	Cat-III	Ea.	1720.00	85.00	1805.00
	(iii) above 24 to 36 watts				
	Cat-II	Ea.	1758.00	128.00	1886.00
	Cat-III	Ea.	2052.00	128.00	2180.00
	(B) Flood Light (IP-65), Surge protection -4KV integral and ,Light must have 440VAC line supply with over-voltage protection.				
	(i) above 20 to 30 watts				
	Cat-II	Ea.	3784.00	128.00	3912.00
	Cat-III	Ea.	4638.00	128.00	4766.00
2-16-2.	Supplying and erecting LED street light / Flood light fittings with High power White LEDs wattage of 3 Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminum housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/ lenses, with toughened glass with company mark/name engraved or embossed 160 to 270 V,Power Factor more than 0.95, THD < 10 %, CCT 3000 K to 5700K,Uniformity ratio >0.45, Luminaire efficacy> 100 lumens/watt . LED driver efficiency > 85 %.(fittings required LM-79 & LM-80 certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.)				
	(A) Street Light (IP-65), Surge protection -4KV integral and ,Light must have 440VAC line supply with over-voltage protection.				
	(i) above 36 to 48 watts				
	Cat-II	Ea.	2823.00	128.00	2951.00
	Cat-III	Ea.	3184.00	128.00	3312.00
	(ii) above 48 to 60 Watts				
	Cat-II	Ea.	3936.00	170.00	4106.00
	Cat-III	Ea.	4778.00	170.00	4948.00
	(iii) Above 60 to 90 watts				
	Cat-II	Ea.	4706.00	170.00	4876.00
	Cat-III	Ea.	5747.00	170.00	5917.00
	(iv) above 90 to 120 watts				
	Cat-II	Ea.	6151.00	170.00	6321.00
	Cat-III	Ea.	6331.00	170.00	6501.00
	(v)above 120 to 160 watts				
	Cat-II	Ea.	7372.00	170.00	7542.00
	Cat-III	Ea.	7628.00	170.00	7798.00
	(vi)above 160 to 200 watts				
	Cat-II	Ea.	8238.00	170.00	8408.00
	Cat-III	Ea.	8848.00	170.00	9018.00
	(vii)above 200 to 250 watts				
	Cat-II	Ea.	9000.00	170.00	9170.00
	Cat-III	Ea.	9992.00	170.00	10162.00
	(B) Flood Light (IP-65), Surge protection -4KV integral and ,Light must have 440VAC line supply with over-voltage protection.				
	(i) above 40 to 48 watts				
	Cat-II	Ea.	4394.00	128.00	4522.00
	Cat-III	Ea.	5015.00	128.00	5143.00
	(ii) above 48 to 60 Watts				
	Cat-II	Ea.	5126.00	128.00	5254.00
	Cat-III	Ea.	5416.00	128.00	5544.00
	(iii) Above 60 to 90 watts				
	Cat-II	Ea.	5584.00	170.00	5754.00
	Cat-III	Ea.	5858.00	170.00	6028.00
	(iv) above 90 to 120 watts				
	Cat-II	Ea.	6003.00	170.00	6173.00
	Cat-III	Ea.	7025.00	170.00	7195.00
	(v) above 120 to 160 watts				
	Cat-II	Ea.	7895.00	170.00	8065.00
	Cat-III	Ea.	8200.00	170.00	8370.00
	(vi) above 160 to 200 watts				
	Cat-II	Ea.	9077.00	170.00	9247.00
	Cat-III	Ea.	9382.00	170.00	9552.00
	(vii) above 200 to 250 watts				
	Cat-II	Ea.	10236.00	170.00	10406.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat-III	Ea.	10541.00	170.00	10711.00
	(C) Post Top Lantern LED fitting comprises of finish cast aluminum spigot and spun aluminum canopy fixed with opal polycarbonate, pipe arrangement for vertical mounting driver and accessories wired upto terminal block.IP 65				
	(i)20- 30W				
	Cat-II	Ea.	3356.00	85.00	3441.00
	Cat-III	Ea.	3967.00	85.00	4052.00
	(ii)32-40W				
	Cat-II	Ea.	3806.00	85.00	3891.00
	Cat-III	Ea.	4687.00	85.00	4772.00
2-16-3.	Bollards				
	(a) LED Bollard fittings of minimum height 400 mm & dia.100mm having polycarbonate clear/milky diffuser mounted on 3mm thick aluminium finished powder coated pipe with base plate 160x160mm with erection by M8x75mm fastner with required RCC foundation.IP65 for 9 to 20 watt ,surge-4kv cat-III	Ea.	1930.00	128.00	2058.00
	(b) LED Bollard fittings of minimum height 600 mm & dia.100mm having polycarbonate clear/milky diffuser mounted on 3mm thick aluminium finished powder coated pipe with base plate 160x160mm with erection by M8x75mm fastner with required RCC foundation.IP65 for 9 to 20 watt ,surge-4kv- cat-III	Ea.	3002.00	128.00	3130.00
	(c) LED Bollard fittings of minimum height 1000 mm & dia.100mm having polycarbonate clear/milky diffuser mounted on 3mm thick aluminium finished powder coated pipe with base plate 160x160mm with erection by M8x75mm fastner with required RCC foundation.IP65 for 9 to 20 watt and above ,surge-4kv cat-III	Ea.	4289.00	128.00	4417.00
SECTION 2- 17 LED SOLAR STREET LIGHTS					
2-17-1.	Supplying and erecting LED Solar street lights with High power White LEDs wattage of 1Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminum housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/ lenses with company mark/name engraved or embossed with 36 hours battery backup & MPPT 24V,7.5 A charge controller with 12 hours automatic switch on/off with wind speed resistance 44 m/s as per IEC 61215				
	(A) 12W, IP-65, PV Module – 60W and 4 mtr poles complete erected	Ea.	15933.00	0.00	15933.00
	(B) 15W, IP-65, PV Module – 80W and 4 mtr poles complete erected	Ea.	17899.00	0.00	17899.00
	(C) 21W, IP-65, PV Module – 100W and 5 mtr poles complete erected	Ea.	21153.00	0.00	21153.00
	(D) 28W, IP-65, PV Module –100W and 6 mtr poles complete erected	Ea.	25382.00	0.00	25382.00
	(E) 36W,3000 lumens, IP-65, PV Module – 2x100W and 6 mtr poles complete erected	Ea.	35797.00	0.00	35797.00
2-17-2.	Supplying and Installation of Approved make Integrated LED Solar light fitting comprising in built Poly crystalline solar panel,Lithium-ion 3.7 V battery, LED CRI Greater than 70, CCT- 6500K, 80 lum/watt all housed in Extruded Aluminium body,with motion sensor & auto on - off device erected on existing pole with following specifications.				
	(A) 6 watt LED light, with 7 W Solar panel, 3.7 V 13000 to 15000 mAh battery, 450 lm luminus flux, suitable for mount on 3 mtr height pole.	Ea.	9763.00	85.00	9848.00
	(B) 12 watt LED light, with 15 W Solar panel, 3.7 V 26000 to 28000 mAh battery, 850-900 lm luminus flux, suitable for mount on 3.5 to 4 mtr height pole.	Ea.	17085.00	128.00	17213.00
	(C) 18 watt LED light, with 22 W Solar panel, 3.7 V 39500 to 40500 mAh battery, 1250-1350 lm luminus flux,suitable for mount on 3.5 to 4 mtr height pole.	Ea.	21967.00	170.00	22137.00
2-17-3	Providing and erecting PVC body surface or pendent mounting LED Bulk type 9 watt Lighting Fitting with electronic driver. And lumen output from luminaire 720lm , input voltage range 90-300VAC , 50Hz cool white(3000 to 6500k), inbuilt driver, -20degC to +60degC working temperature, AL frame with Beam Angle 120deg	Ea.	746.00	34.00	780.00
2-17-4.	Supplying and Erecting Of L.E.D. type High bay fixture having Power Consumption of following watts with, Input Voltage 110 - 290 V.AC with full efficiency, Power Factor > 0.9 with 50/60 HZ, CCVC LED Driver used for maximum power saving, Best Quality Aluminium alloy housing and aluminium Dome for better heat dissipation, CCT Cool white (6000K), CRI 80, Beam angle > 120 degrees, working temperature -20 deg c to +55 deg c, Body IP 65				
	(A) 70 to 90 watts	Ea.	5034.00	170.00	5204.00
	(B) 90 to 150 watts	Ea.	5526.00	170.00	5696.00
	(C) 150 to 200 watts	Ea.	10000.00	170.00	10170.00
2-17-5.	Supplying LED Portable/Rechargeable flood light having die - cast aluminium enclosure designed for maximum thermal efficiency of 130lm luminous efficiency at voltage supply between 140-270V AV/12V DC at operating temperature of -20 degree to 60degree celcius with battery back up 3-4hrs				
	(A) up 10 Watt	Ea.	3323.00	85.00	3408.00
	(B) 11 to 20 watt	Ea.	4827.00	85.00	4912.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(C) 21 to 30 watt	Ea.	6234.00	85.00	6319.00
SECTION 2-18 LED DRIVER					
Indoor LED Fittings					
2-18-1.	Repairing of existing indoor LED light fixture(tube light/panel light/spot light/strip light/decorative wall lights etc as per sample)by suitable driver 2 kv according to LED PCB as per requirement of following rating wattage capacity .				
	(A) 1-3 watt capacity	Ea.	56.00	13.00	69.00
	(B) 4-6 watt capacity	Ea.	89.00	13.00	102.00
	(C) 8-15 watt capacity	Ea.	111.00	17.00	128.00
	(D) 16-24 watt capacity	Ea.	208.00	17.00	225.00
	(E) 25-36 watt capacity	Ea.	331.00	26.00	357.00
	(F) 38-50 watt capacity	Ea.	412.00	26.00	438.00
LED OUTDOOR FITTINGS					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
2-19-1.	Repairing of existing indoor LED light fixture(flood light/street light/bollard lights/decorative wall lights/landscape light etc as per sample)by suitable driver 4 kv,IP65 according to LED PCB as per requirement of following rating wattage capacity .				
	(A) 1-3 watt capacity	Ea.	56.00	30.00	86.00
	(B) 4-6 watt capacity	Ea.	89.00	30.00	119.00
	(C) 8-15 watt capacity	Ea.	242.00	64.00	306.00
	(D)16-24 watt capacity	Ea.	310.00	64.00	374.00
	(E) 25-36 watt capacity	Ea.	433.00	64.00	497.00
	(F) 38-48 watt capacity	Ea.	475.00	85.00	560.00
	(G) 50-80 watt capacity	Ea.	793.00	85.00	878.00
	(H) 90-100 watt capacity	Ea.	1229.00	102.00	1331.00
Street light Automation					
2-20-1.	Smart 4G Timer, Supply of IoT based 4G Smart Streetlight Control & Monitoring System having a Smart Panel comprising of 3 Phase IoT Streetlight Smart 4G Timer with 16x2 LCD to display RSSI, relay status, RTC time & diagnostics. Controller works on 3-phase & also on any available 1-Phase. Controller with 8-hour battery backup during external power failure. External power failure alert immediately to cloud. 110-630 V AC @ 50-60 Hz – 3 phase operating range. Standby power consumption <5W. Smart 4G Timer with RS232 port for DLMS Energy meter. Smart 4G Timer must be compatible with any make / brand of DLMS (RS232) Energy Meter. DI: 4 Nos. (3 Contactor / Latch detection, 1 for Door Sensor). DO: 3 Relays for Independent control each phase (R, Y, B) with 1 extra spare relay. Smart 4G Timer with dual SIM functionality for connectivity backup. 4G M2M SIM 3-Year communication included. Local configuration via WiFi / BLE for maintenance or during force majeure. GPS chip inbuilt of Smart 4G Timer for auto location tracking & astronomic schedule location. 50 programmable schedules. Astronomic scheduling with monthly offsets. Smart 4G Timer has inbuilt timer stores schedules locally & also stores schedule execution logs locally, syncs to cloud whenever connected to cloud. Auto-scheduler overrides manual operations. Monitoring & alerts for MCB trips, Over/under voltage, current, overload, power factor & short circuit protections with alerts via Dashboard, App, SMS, WhatsApp & Email. Contactor / Latch chattering protection & alerts. Smart 4G Timer with neutral failure protection and alert. Built-in Watchdog for anti-jamming. Smart 4G Timer must send Regular "heartbeat" on software for CCMS status.				
	Accelerometer for tamper & panel movement detection & alerts. Smart 4G Timer must be tested from an NABL Lab for Surge Test @ 6 KV (IEC 61000-4-5). ESD Test @ 4 KV (IEC 61000-4-2). EFT @ 2 KV (IEC 61000-4-4). Conducted Emission @ 150 KHz-30 MHz (CISPR11). Damp Heat Test (40 Deg C @ 95% RH) 2 cycles of 12+12 hours (IS: 9000 (Part 5/Sec.2):1981 latest) with all test passing criteria as "Temporary degradation or loss of function or performance which is self-recoverable". FOTA functionality required for upgrades. Smart 4G Timer sends & stores online/offline data of controller & load for lamp burn hours analysis.				
	It stores & syncs connectivity logs for configuration of network connections & analytics. PANEL & SWITCHGEAR. The panel includes a Class 1 DLMS energy meter NABL approved with 1-2 months of stored data of daily, hourly, monthly, load survey, instantaneous, events, tamper data & with power events stored in meter memory for audit purpose. Must monitor V, I, KWH, KVA, PF, KVAH, etc. Panel made with 2 mm CRCA sheet with ground mountable stand complete with gland plate, waterproof glands, earthing bolt, IP55, weatherproof panel with RAL7035 powder-coated. Smart 4G Timer must be fitted on removable terminal sockets for easy maintenance. Switchgear includes 3 Nos. 3 pole Contactor / Latch having minimum 50 A Load carrying capacity per phase, all other switchgear & wires 40 A load carrying capacity. 1 Nos. 4P MCB 10 KA for Incoming & 6 Nos. 1P MCBs 10 KA for Outgoing. Phase-Wise Bypass MCBs required. 4P RCCB 100 mA, door sensor. Also, provide lock & key facility. Panel mount outdoor antenna for GSM, GPS. Canopy design for draining down water. CCMS SMART SOFTWARE. OAuth 2.0 APIs for sending data to Government cloud/software, etc.. CCMS Web dashboard with secure password & OTP login. Hosted on trusted cloud. data security, antivirus & attack protection. HTTPS. AES256-bit encryption. Vulnerability Assessment and Penetration Testing (VAPT) certificate for CCMS Software. Streetlight management software for load status, live analytics & reports. Energy meter data tables (KW, KWh, PF, I, V, etc.) available. Utility monthly bill reconciliation & Class 1 accuracy reports for billing, energy monitoring & auditing for streetlight load. Fault detection. Light fault 95% analysis on dashboard using energy monitoring. WhatsApp integration. Hierarchy-wise reporting & alerts. GIS mapping of live connected streetlight control panels, poles & streetlights. MQTT protocol. Smartphone app with local configuration & navigation. Monitoring & reporting of lighting parameters. Facility for media attachments for site photos/videos/work permits/checklists, etc. per Feeder Panel for remote verification. Asset management module for streetlight infrastructure data. Complaint/service task management with history & escalation must be available. Android & iOS App for dashboard analytics, graphs, energy data, alerts. 3 Years CCMS Web Software & Cloud Server Hosting subscription included. Customizable, user-friendly dashboard.	Ea.	93500.00	5933.00	99433.00
2-20-2.	Smart 4G Timer, Supply of IoT based 4G Smart Streetlight Control & Monitoring System having a Smart Panel comprising of 1 Phase IoT Streetlight Smart 4G Timer with 16x2 LCD to display RSSI, relay status, RTC time & diagnostics. Controller with 8-hour battery backup during external power failure. External power failure alert immediately to cloud. 110-630 V AC @ 50-60 Hz – 1 phase operating range. Standby power consumption <5W. Smart 4G Timer with RS232 port for DLMS Energy meter. Smart 4G Timer must be compatible with any make / brand of DLMS (RS232) Energy Meter. DI: 2 Nos. (1 Contactor / Latch detection, 1 for Door Sensor). DO: 1 Relay for control with 1 extra spare relay. Smart 4G Timer with dual SIM functionality for connectivity backup. 4G M2M SIM 3-Year communication included. Local configuration via WiFi / BLE for maintenance or during force majeure. GPS chip inbuilt of Smart 4G Timer for auto location tracking & astronomic schedule location. 50 programmable schedules. Astronomic scheduling with monthly offsets.				
	Smart 4G Timer has inbuilt timer stores schedules locally & also stores schedule execution logs locally, syncs to cloud whenever connected to cloud. Auto-scheduler overrides manual operations. Monitoring & alerts for MCB trips, Over/under voltage, current, overload, power factor & short circuit protections with alerts via Dashboard, App, SMS, WhatsApp & Email. Contactor / Latch chattering protection & alerts. Smart 4G Timer with neutral failure protection and alert. Built-in Watchdog for anti-jamming. Smart 4G Timer must send Regular "heartbeat" on software for CCMS status. Accelerometer for tamper & panel movement detection & alerts. Smart 4G Timer must be tested from an NABL Lab for Surge Test @ 6 KV (IEC 61000-4-5). ESD Test @ 4 KV (IEC 61000-4-2). EFT @ 2 KV (IEC 61000-4-4). Conducted Emission @ 150 KHz-30 MHz (CISPR11). Damp Heat Test (40 Deg C @ 95% RH) 2 cycles of 12+12 hours (IS: 9000 (Part 5/Sec.2):1981 latest) with all test passing criteria as "Temporary degradation or loss of function or performance which is self-recoverable". FOTA functionality required for upgrades. Smart 4G Timer sends & stores online/offline data of controller & load for lamp burn hours analysis. It stores & syncs connectivity logs for configuration of network connections & analytics. PANEL & SWITCHGEAR.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	The panel includes a Class 1 DLMS energy meter NABL approved with 1-2 months of stored data of daily, hourly, monthly, load survey, instantaneous, events, tamper data & with power events stored in meter memory for audit purpose.. Must monitor V, I, KWH, KVA, PF, KVAH, etc.. Panel made with 2 mm CRCA sheet with ground mountable stand complete with gland plate, waterproof glands, earthing bolt, IP55, weatherproof panel with RAL7035 powder-coated.. Smart 4G Timer must be fitted on removable terminal blocks for easy maintenance.. Switchgear includes 1 Nos. 3 pole Contactor / Latch having minimum 50 A Load carrying capacity per phase, all other switchgear & wires: 40 A load carrying capacity, 1 Nos. 2P MCB 10 kA for Incoming & 2 Nos. 1P MCBs 10 kA for Outgoing.. Phase Bypass MCBs required, 2P RCCB 100 mA, door sensor. Also, provide lock & key facility.. Panel mount outdoor antenna for GSM, GPS.. Canopy designed for draining down water.. SOFTWARE: OAuth 2.0 APIs for sending data to Government clouds/software, etc., CCMS Web dashboard with secure password & OTP login.. Hosted on trusted cloud, data security, antivirus & attack protection.. HTTPS, AES256-bit encryption.. Vulnerability Assessment and Penetration Testing (VAPT) certificate for CCMS Software.. Streetlight management software for load status, live analytics & reports.. Energy meter data tables (kW, kWh, PF, I, V, etc.) available.. Utility monthly bill reconciliation & Class 1 accuracy reports for billing, energy monitoring & auditing for streetlight load.. Fault detection.. Light fault 99% analysis on dashboard using energy monitoring.. WhatsApp integration.. Hierarchy-wise reporting & alerts.. GIS mapping of live connected streetlight control panels, poles & streetlights.. MQTT protocol.. Smartphone app with local configuration & navigation.. Monitoring & reporting of lighting parameters.. Facility for media attachments for site photos/videos/work permits/checklists, etc. per Feeder Panel for remote verification.. Asset management module for streetlight infrastructure data.. Complaint/service task management with history & escalation must be available.. Android & iOS App for dashboard analytics, graphs, energy data, alerts, 3 Years CCMS Web Software & Cloud Server Hosting subscription included.. Customizable, user-friendly dashboard..	Ea.	65500.00	4238.00	69738.00
2-20-3.	Smart 4G Timer, Supply of IoT based 4G Smart Streetlight Control & Monitoring System having a Smart Panel comprising of 3 Phase IoT Streetlight Smart 4G Timer with 10x2 LCD to display RSSI, relay status, RTC time & diagnostics.. Controller works on 3-phase & also on any available 1-Phase.. Controller with 8-hour battery backup during external power failure. External power failure alert immediately to cloud.. 110-630 V AC @ 50-60 Hz – 3 phase operating range.. Standby power consumption <3W.. Smart 4G Timer with RS232 port for DLMS Energy meter & RS485/UART/RS232 port for any external device communication.. Smart 4G Timer must be compatible with any make / brand of DLMS (RS232) Energy Meter.. DI: 5 Nos. (3 Contactor / Latch detection, 1 for SPD, 1 for Door Sensor).. DO: 3 Relays for Independent control each phase (R, Y, B) with 1 extra spare relay.. Highly Precise TCXO RTC with 10-year battery reserve.. Automatically syncs with internal, cellular, server & GPS clock; with logs stored in the CCMS Web Software.. Smart 4G Timer with dual SIM functionality for connectivity backup.. 4G M2M SIM 5-Year communication included.. Local configuration via WiFi / BLE for maintenance or during force majeure.. GPS chip input of Smart 4G Timer for auto location tracking & astronomic schedule location.. 50 programmable schedules.. Astronomic scheduling with monthly offsets.. Smart 4G Timer has inbuilt timer stores schedules locally & also stores schedule execution logs locally, syncs to cloud whenever connected to cloud.. Auto-scheduler overrides manual operations.. Monitoring & alerts for MCB trips & SPD failure.. Over/under voltage, current, overload, power factor & short circuit protections with alerts via Dashboard, App, SMS, WhatsApp & Email.. Contactor / Latch chattering protection & alerts.. Smart 4G Timer with neutral failure protection and alert.. During earthing failure to Panel, it must generate alerts on CCMS Dashboard for safety.. Builtin Watchdog for anti-jamming.. Smart 4G Timer must send Regular "heartbeat" on software for CCMS status.. Accelerometer for tamper & panel movement detection & alerts.. Smart 4G Timer must be tested from an NABL Lab for Surge Test @ 6 KV (IEC 61000-4-5), ESD Test @ 4 KV (IEC 61000-4-2), EFT @ 2 KV (IEC 61000-4-4), Conducted Emission @ 150 KHz-30 MHz (CISPR11), Damp Heat Test (40 deg C @ 95% RH) 2 cycles of 12+12 hours (IS: 9000 (Part 5/Sec2):1981 latest) with all test passing criteria as "Temporary degradation or loss of functionality and performance".				
	It stores & syncs connectivity logs for configuration of network connections & analytics.. PANEL & SWITCHGEAR: The panel includes a Class 1 DLMS energy meter NABL approved with 1-2 months of stored data of daily, hourly, monthly, load survey, instantaneous, events, tamper data & with power events stored in meter memory for audit purpose.. Must monitor V, I, KWH, KVA, PF, KVAH, etc.. Panel made with 2 mm CRCA sheet with ground mountable stand complete with gland plate, waterproof glands, earthing bolt.. Panel to have transparent window to view DISCOM Energy Meter display.. IP55, weatherproof panel with RAL7035 powder-coated.. Smart 4G Timer must be fitted on removable terminal sockets for easy maintenance.. Switchgear includes 3 Nos. 3 pole Contactor / Latches having minimum 100 A Load carrying capacity per phase, all other switchgear & wires: 60 A load carrying capacity.. Contactor / Latch rating such that spare load like decorative lights can be operated.. Spare 3 Pole Contactor / Latch (1 Nos.) also available in panel for replacement during failure.. 1 Nos. 4P MCB 10 kA for Incoming & 9 Nos. 1P MCBs 10 kA for Outgoing.. Phase-Wise Bypass MCBs required.. 4P RCCB 100 mA, 40KA, 335V smart SPD with feedback detection to send alert of SPD failure to CCMS web software.. Suitable 3 Phase RYBN 415 V AC isolation transformer for control circuit stable feed.. 1 Nos. Input & 3 Nos. Output RYBN TPN connectors for reliable & safe termination.. 4 Nos. DIN Rail Type R, Y, B indicators for each TPN connector.. 2 Door Panel. 1 in Front & 1 at Back.. door sensor. Also, provide lock & key facility.. High quality /SIBIS/ FR Cables to be used.. Double lugging to be avoided for potential fire hazard.. Minimum Dimensions of Panel: 1100 x 650 x 550 mm & stand height dimensions: 700 mm.. Panel must have clear 20% spare space for future upgradation.. Panel must be equipped with standard Indian type plug with 6 A 2 pole MCB & including light indicator..				
	Panel must contain min. 150 mm space at bottom (TPN connector end) for cable terminations.. Automatic door sensor based light (with protection MCB) for viewing/maintenance.. Thermostat & Space heater (with protection MCB) for cold weather conditions with automatic on/off controller.. Panel must have adequate provision to mount DISCOM Energy meter along with spare space around it.. The switchgear compartment must have cover on top with protective transparent 4 mm acrylic sheet, with accessible window to operate switchgear components.. Switch gear, energy meter & Smart 4G Timer must be warranted for 5 years.. Panel mount outdoor antenna for GSM, GPS.. Canopy design for draining down water.. CCMS SMART SOFTWARE: OAuth 2.0 APIs for sending data to Government clouds/software, etc., CCMS Web dashboard with secure password & OTP login.. Hosted on trusted cloud, data security, antivirus & attack protection.. HTTPS, AES256-bit encryption.. Vulnerability Assessment and Penetration Testing (VAPT) certificate for CCMS Software.. Streetlight management software for load status, live analytics & reports.. Energy meter data tables (kW, kWh, PF, I, V, etc.) available.. Utility monthly bill reconciliation & Class 1 accuracy reports for billing, energy monitoring & auditing for streetlight load.. Fault detection.. Light fault 99% analysis on dashboard using energy monitoring.. WhatsApp integration.. Hierarchy-wise reporting & alerts.. GIS mapping of live connected streetlight control panels, poles & streetlights.. MQTT protocol.. Smartphone app with local configuration & navigation.. Monitoring & reporting of lighting parameters.. Facility for media attachments for site photos/videos/work permits/checklists, etc. per Feeder Panel for remote verification.. Asset management module for streetlight infrastructure data.. Complaint/service task management with history & escalation must be available.. Android & iOS App for dashboard analytics, graphs, energy data, alerts, 5 Years CCMS Web Software & Cloud Server Hosting subscription included.. Customizable, user-friendly dashboard..	Ea.	243800.00	5933.00	249733.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
2-20-4.	Smart 4G Timer, Supply of IoT based 4G Smart Streetlight Control & Monitoring System having a Smart Panel comprising of 1 Phase IoT Streetlight Smart 4G Timer with 10x2 LCD to display RSSI, relay status, RTC time & diagnostics. Controller with 8-hour battery backup during external power failure. External power failure alert immediately to cloud., 110-630 V AC @ 50-60 Hz – 1 phase operating range. Standby power consumption <3W., Smart 4G Timer with RS232 port for DLMS Energy meter & RS485/UART/RS232 port for any external device communication. Smart 4G Timer must be compatible with any make / board of DLMS (RS232) Energy Meter., DI: 3 Nos. (1 Contactor / Latch detection, 1 for SPD, 1 for Door Sensor.), DO: 1 Relay for control with 1 extra spare relay., Highly Precise 1CXO RTC with 10-year battery reserve., automatically syncs with internet, cellular, server & GPS clock; with logs stored in the CCMS Web Software., Smart 4G Timer with dual SIM functionality for connectivity backup., 4G M2M SIM 5-year communication included., Local configuration via WiFi / BLE for maintenance or during force majeure., GPS chip inbuilt of Smart 4G Timer for auto location tracking & astronomic schedule location., 50 programmable schedules., Astronomic scheduling with monthly offsets., Smart 4G Timer has inbuilt timer stores schedules locally & also stores schedule execution logs locally, syncs to cloud whenever connected to cloud., Auto-scheduler overrides manual operations., Monitoring & alerts for MCB trips & SPD failure., Over/under voltage, current, overload, power factor & short circuit protections with alerts via Dashboard, App, SMS, WhatsApp & Email., Contactor / Latch chattering protection & alerts., Smart 4G Timer with neutral failure protection and alert., During earthing failure to Panel, it must generate alerts on CCMS Dashboard for safety., During earthing failure to Panel, it must generate alerts on CCMS Dashboard for safety., Built-in Watchdog for anti-jamming., Smart 4G Timer must send Regular "heartbeat" on software for CCMS status., Accelerometer for tamper & panel movement detection & alerts.,				
	Smart 4G Timer must be tested from an NABL Lab for Surge Test @ 6 KV (IEC 61000-4-5), ESD Test @ 4 KV (IEC 61000-4-2), EFT @ 2 KV (IEC 61000-4-4), Conducted Emission @ 150 KHz-30 MHz (CISPR11), Damp Heat Test (40 Deg C @ 95% RH) 2 cycles of 12x12 hours (IS: 9000 (Part 5/Sec.2)1981 latest) with all test passing criteria as "Temporary degradation or loss of function or performance which is self-recoverable",. FOTA functionality required for upgrades., Smart 4G Timer sends & stores online/offline data of controller & load for lamp burn hours analysis., it stores & syncs connectivity logs for configuration of network connections & analytics., PANEL & SWITCHGEAR.,				
	The panel includes a Class 1 DLMS energy meter NABL approved with 1-2 months of stored data of daily, hourly, monthly, load survey, instantaneous, events, tamper data & with power events stored in meter memory for audit purpose., Must monitor V, I, KWh, KVA, PF, KVAh, etc., Panel made with 2 mm CRCA sheet with ground mountable stand complete with gland plate, waterproof glands, earthing bolt., Panel to have transparent window to view DISCOM Energy Meter display., IP55, weatherproof panel with RAL7035 powder-coated., Smart 4G Timer must be fitted on removable-terminal blocks for easy maintenance., Switchgear includes 1 Nos. 3 pole Contactor / Latch having minimum 100 A Load carrying capacity per phase, all other switchgear & wires: 60 A load carrying capacity., Contactor / Latch rating such that spare load like decorative lights can be operated., Spare 3 Pole Contactor / Latch (1 Nos.) also available in panel for replacement during failure., 1 Nos. 2P MCB 10 kA for Incoming & 3 Nos. 1P MCBs 10 kA for Outgoing., Phase Bypass MCBs required., 2P RCCB 100 mA., 40kA, 33kV smart SPD with feedback detection to send alert of SPD failure to CCMS web software., Suitable 1 Phase 415 V AC isolation transformer for control circuit stable feed., 1 Nos. Input & 1 Nos. Output TPN connectors for reliable & safe termination., 2 Nos. DIN Rail Type power line indicators for each TPN connector., 2 Door Panel: 1 in Front & 1 at Back., door sensor. Also, provide lock & key facility., High quality ISI/BS, FR Cables to be used., Double lugging to be avoided for potential fire hazard., Minimum Dimensions of Panel: 700 x 500 x 550 mm & stand height dimensions: 700 mm., Panel must have clear 20% spare space for future upgradation., Panel must be equipped with standard Indian type plug with 6 A 2 pole MCB & including light indicator., Panel must contain min. 150 mm space at bottom (TPN connector end) for cable terminations. Automatic door sensor based light (with protection MCB) for viewing/maintenance., Thermostat & Space heater (with protection MCB) for cold weather conditions with automatic on/off controller., Panel must have adequate provision to mount DISCOM Energy meter along with spare space around it. The switchgear compartment must have cover on top with protective transparent 4 mm acrylic sheet, with accessible window to operate switchgear components.,				
	, Switch gear, energy meter & Smart 4G Timer must be warranted for 5 years., Panel mount outdoor antenna for GSM, GPS., Canopy designed for draining down water., SOFTWARE, OAuth 2.0 APIs for sending data to Government clouds/software, etc., CCMS Web dashboard with secure password & OTP login., Hosted on trusted cloud, data security, antivirus & attack protection., HTTPS, AES256-bit encryption., Vulnerability Assessment and Penetration Testing (VAPT) certificate for CCMS Software., Streetlight management software for load status, live analytics & reports., Energy meter data tables (KW, kWh, PF, I, V, etc.) available., Utility monthly bill reconciliation & Class 1 accuracy reports for billing, energy monitoring & auditing for streetlight load., Fault detection., Light fault 99% analysis on dashboard using energy monitoring, WhatsApp integration., Hierarchy-wise reporting & alerts., GIS mapping of live connected streetlight control panels, poles & streetlights., MQTT protocol., Smartphone app with local configuration & navigation.,	Ea.	139000.00	4238.00	143238.00
2-20-5.	Supply of Smart Streetlight Control & Monitoring System having an Individual Streetlight Controller(ISLC) for control, monitoring, & fault detection of each streetlight., Equipped with a 32-bit CPU., Operates on 90V to 600V AC., Has 1 output for 0%-100% dimming & compatible with 0-10 V LED dimmable driver., Individual streetlight Cloud software-based dimming & scheduled dimming for each streetlight., User-adjustable dimming intensity., ISLC must be tested from an NABL Lab for Surge Test @ 6 KV (IEC 61000-4-5), ESD Test @ 4 KV (IEC 61000-4-2), EFT @ 2 KV (IEC 61000-4-4), Conducted Emission @ 150 KHz-30 MHz (CISPR11), Cold Test (-10 deg C) for 4 hours (IS: 9000 (Part 2/Sec.4):1977 latest, Damp Heat Test (40 Deg C @ 95% RH) 2 cycles of 12x12 hours (IS: 9000 (Part 5/Sec.2):1981 latest), Ingress Protection for IP65 as per IEC 60529 with all test passing criteria as "Temporary degradation or loss of function or performance which is self-recoverable",. Pole mount dampers for ISLC installation. Operates on IoT Mesh WiFi / Wi-Sun / Zigbee / LoRaWAN technologies., Bidder must provide backhaul infrastructure for communication technology for 5 years., ISLC with in-built energy monitoring chip., Must monitor V, I, PF, F, KW, kWh., Built-in Surge protection., "Fail-safe", ISLC ensures lights remain ON when ISLC fails., Accelerometer inside ISLC for pole movement alert., Failure of one ISLC will not affect others., Local configuration via WiFi / BLE for maintenance or during force majeure., In-built GPS chip for ISLC precise mapping & astronomic location., Programmable dimming schedules daily, monthly, yearly, special events, astro-clock for sunset/sunrise time with monthly offset., Live status of ISLC & streetlight monitored online., Lamp burn hours are monitored via CCMS Software., The ISLC must be warranted for 5 years against manufacturing defects., CCMS SMART SOFTWARE, OAuth 2.0 API for sending data to Government clouds, servers, software., CCMS Web dashboard with secure password & OTP login., ISLC software must integrate with Group Controller or operate on a common platform., Hosted on trusted cloud, data security, antivirus & attack protection., HTTPS., AES256-bit encryption.,	Ea.	8700.00	1000.00	9700.00
	Vulnerability Assessment and Penetration Testing (VAPT) certificate for CCMS Software., Streetlight management software for load status, live analytics & reports., Energy meter data (kW, kWh, PF, I, V, etc.) available., Utility data reconciliation & Class 1 accuracy reports for billing., Energy monitoring & auditing for streetlight infrastructure., Fault detection & alerts., Customizable CCMS Software., WhatsApp integration, SMS & Email Alerts., Hierarchy-wise reporting & alerts., GIS mapping of live connected streetlight control panels & streetlights., OTA updates., Smartphone app with local configuration & navigation., Monitoring & reporting of lighting parameters., Work permits, media attachments for site photos etc. per Fielder Panel for remote verification., Asset management module for streetlight infrastructure data & GIS mapping., Complaint/service management with history & escalation must be available., Includes 5 years of data hosting, communication, & cloud services with CCMS Web Dashboard.,				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
2-20-6.	Supply of Smart Streetlight Control & Monitoring System having an Individual Streetlight Controller(ISLC) for control, monitoring, & fault detection of each streetlight. Equipped with a 32-bit CPU. Operates on 90V to 600 V AC.. Has 1 output for 0%-100% dimming & compatible with 0-10 V LED dimmable driver.. Individual streetlight Cloud software-based dimming, scheduled dimming & motion-based dimming for each streetlight.. ISLC with in-built Microwave Motion Sensor. Motion sensor based adaptive dimming facility to turn 100% in streetlights ahead when vehicle/pedestrian approaches. It must be cloud-based settable to set number of ahead streetlights to be brightened.. Microwave Motion sensor detection range upto 9 m.. Synchronized with other zones streetlight mesh networks via roaming trigger. User-adjustable dimming intensity. ISLC must be tested from an NABL Lab for Surge Test (@ 6 KV (IEC 61000-4-5), ESD Test @ 4 KV (IEC 61000-4-2), EFT @ 2 KV (IEC 61000-4-4). Conducted Emission @ 150 KHz-30 MHz (CISPR11), Cold Test (-10 deg C) for 4 hours IS: 9000 (Part 2/Sec.4):1977 latest, Damp Heat Test (40 Deg C @ 95% RH) 2 cycles of 12+12 hours (IS: 9000 (Part 5/Sec.2):1981 latest), Ingress Protection for IP65 as per IEC 60529 with all test passing criteria as "Temporary degradation or loss of function or performance which is self-recoverable".. Includes Clamps to install ISLC on Pole with ISLC angle position (0 Deg. To 90 Deg.) adjustment facility. Operates on IoT Mesh WiFi / Wi-Sun / ZigBee / sub-GHz technologies.. Bidder must provide backhaul infrastructure for communication technology for 5 years.. ISLC with in-built energy monitoring chip. Must monitor V, I, PF, F, KW, kWh.. Built-in Surge protection.. "Fail-safe": ISLC ensures lights remain ON when ISLC fails.. Accelerometer inside ISLC for pole movement alert.. Failure of one ISLC will not affect others.. Local configuration via WiFi / BLE for maintenance or during force majeure.. In-built GPS chip for ISLC precise mapping & astronomic location.. Programmable dimming schedules daily, monthly, yearly, special events, astro-clock for sunrise/sunset time with monthly offset.. Live status of ISLC & streetlight monitored online.. Lamp burn hours are monitored via CCMS Software.. The ISLC must be warranted for 5 years against manufacturing defects.. CCMS SMART SOFTWARE, OAuth 2.0 API for sending data to Government clouds, servers, software..	Ea.	9100.00	1000.00	10100.00
	CCMS Web dashboard with secure password & OTP login.. ISLC software must integrate with Group Controller or operate on a common platform.. Hosted on trusted cloud, data security, antivirus & attack protection.. HTTPS.. AES256-bit encryption.. Vulnerability Assessment and Penetration Testing (VAPT) certificate for CCMS Software.. Streetlight management software for load status, live analytics & reports.. Energy meter data (kW, kWh, PF, I, V, etc.) available.. Utility data reconciliation & Class 1 accuracy reports for billing.. Energy monitoring & auditing for streetlight infrastructure.. Fault detection & alerts.. Customizable CCMS Software.. WhatsApp integration, SMS & Email Alerts.. Hierarchy-wise reporting & alerts.. GIS mapping of live connected streetlight control panels & streetlights.. OTA updates.. Smartphone app with local configuration & navigation.. Monitoring & reporting of lighting parameters.. Work permits, media attachments for site photos etc. per Feeder Panel for remote verification.. Asset management module for streetlight infrastructure data & GIS mapping.. Complaint/service management with history & escalation must be available.. Includes 5 years of data hosting, communication, & cloud services with CCMS Web Dashboard..				

CHEPTER - III Switchgears and Accessories
SECTION 3-1 SWITCHGEARS WITH REWIRABLE FUSES

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-1-1.	providing and erecting Approved make Double Pole Plastic Switch and fuse 250V., 30A confirming to IS erected on Polished wooden block as directed.	Ea.	111.00	17.00	128.00
3-1-2.	Providing Approved make Double Pole Cast Iron Clad Switch & rewirable Fuse 240 / 250 V confirming to IS.				
	(a)16A.				
	Cat.I	Ea.	229.00	0.00	229.00
	Cat.II	Ea.	276.00	0.00	276.00
	Cat.III	Ea.	323.00	0.00	323.00
	(b)32 A				
	Cat.I	Ea.	382.00	0.00	382.00
	Cat.II	Ea.	475.00	0.00	475.00
	Cat.III	Ea.	509.00	0.00	509.00
3-1-3.	Erection & connection charges for 16A / 32 A DP as following				
	(a) on existing wooden block / A.I. frame	Ea.	9.00	26.00	35.00
	(b) on polished wooden block.	Ea.	26.00	26.00	52.00
	(c) on angle iron frame duly painted with Red Oxide	Ea.	89.00	22.00	111.00
3-1-4.	Providing Approved make Triple Pole Cast Iron Clad Switch & rewirable Fuse with neutral link 415/500 V confirming to IS				
	(a)16 A.				
	Cat.I	Ea.	450.00	0.00	450.00
	Cat.II	Ea.	517.00	0.00	517.00
	Cat.III	Ea.	577.00	0.00	577.00
	(b) 32 A				
	Cat.I	Ea.	645.00	0.00	645.00
	Cat.II	Ea.	712.00	0.00	712.00
	Cat.III	Ea.	814.00	0.00	814.00
3-1-5.	Erection & connection Charges For 16A/32A TP as following				
	(a) on existing wooden block / A.I.frame	Ea.	13.00	30.00	43.00
	(b) on polished wooden block.	Ea.	34.00	30.00	64.00
	(c) on angle iron frame duly painted with Red Oxide	Ea.	98.00	30.00	128.00
3-1-6.	Providing Approved make Triple Pole Metal / Iron Clad Switch & Fuse with neutral link 415/500 V confirming to IS				
	(a)63A				
	Cat.I	Ea.	1255.00	0.00	1255.00
	Cat.II	Ea.	1691.00	0.00	1691.00
	Cat.III	Ea.	1958.00	0.00	1958.00
	(b) 100 A				
	Cat.I	Ea.	2200.00	0.00	2200.00
	Cat.II	Ea.	3077.00	0.00	3077.00
	Cat.III	Ea.	3399.00	0.00	3399.00
3-1-7.	Erection & connection Charges for 63A/100A TP as following				
	(a) on existing wooden block / A.I.frame	Ea.	26.00	39.00	65.00
	(b) Erection on angle iron frame duly painted with Red Oxide	Ea.	94.00	39.00	133.00
SECTION 3-2 / SWITCHGEARS WITH HRC FUSES.					
3-2-1.	Providing Approved make Triple Pole Metal Clad Switch Fuse Unit 415/500 V. with HRC fuse of suitable load and neutral link confirming to IS.				
	(a) 32 A				
	Cat.II	Ea.	1323.00	0.00	1323.00
	Cat.III	Ea.	2085.00	0.00	2085.00
	(b) 63 A.				
	Cat.II	Ea.	2077.00	0.00	2077.00
	Cat.III	Ea.	3229.00	0.00	3229.00
	(c) 100 A/125 A				
	Cat.II	Ea.	4077.00	0.00	4077.00
	Cat.III	Ea.	5755.00	0.00	5755.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-2-2.	Providing Approved make Triple Pole Metal Clad Switch Fuse Unit 415/500 V. with HRC fuse of suitable load and neutral link confirming to IS				
	(a) 200 A				
	Cat.II	Ea.	6145.00	0.00	6145.00
	Cat.III	Ea.	7933.00	0.00	7933.00
	(b) 250A				
	Cat.II	Ea.	7162.00	0.00	7162.00
	Cat.III	Ea.	8373.00	0.00	8373.00
	(c) 300 A/315 A/325 A				
	Cat.II	Ea.	8263.00	0.00	8263.00
	Cat.III	Ea.	11568.00	0.00	11568.00
3-2-3.	Providing Approved make Triple Pole metal clad switch fuse unit 415 / 500V. 400 A with HRC fuse of suitable load and neutral link confirming to IS				
	Cat.II	Ea.	11017.00	0.00	11017.00
	Cat.III	Ea.	13221.00	0.00	13221.00
3-2-4.	Erection & connection charges for 32A/ 63 A / 100 A HRC TPN as following				
	(a) on existing wooden block / A.I.frame	Ea.	30.00	43.00	73.00
	(b) Erection on New angle iron frame duly painted with red oxide	Ea.	94.00	43.00	137.00
3-2-5.	Erection & connection Charges for 200A/ 250A/ 300 A /325 A/400 A HRC TPN as following				
	(a) on existing wooden block / A.I. frame	Ea.	30.00	43.00	73.00
	(b) Erection on New angle iron frame duly painted with red oxide .	Ea.	136.00	60.00	196.00
SECTION 3-3 PANEL MOUNTING SWITCHGEARS					
3-3-1.	Providing and erecting Approved make panel mounting front fixing rotary switch (CAM Switch) with face plate with double pair of contacts with two fix and a moving contacts, operated by means of slide, rest on disk with grooves for sequential operation rotated by switch handle, square shaft and knob for Two way with off				
	(i) Two pole				
	(a) 16/25A - 240 V	Ea.	344.00	43.00	387.00
	(b) 32A - 240V	Ea.	424.00	43.00	467.00
	(ii) Four pole				
	(a) 16/25A - 440V	Ea.	513.00	56.00	569.00
	(b) 32A- 440V	Ea.	666.00	56.00	722.00
	(c) 40A - 440V	Ea.	903.00	56.00	959.00
	(d) 63A- 440V	Ea.	1479.00	56.00	1535.00
3-3-2.	providing and erecting Approved make Three Phase & Neutral LT Heavy Duty Switch Disconnecter Fuse Unit Cubical type for panel mounting complete with operating mechanism suitable to operate on 415V A.C. , 23A duty With HRC fuses of suitable load confirming to IS. 13947 (Part I & III). of following capacities.				
	(a) 32 Amp				
	Cat.II	Ea.	1026.00	43.00	1069.00
	Cat.III	Ea.	1789.00	43.00	1832.00
	(b) 63 Amp				
	Cat.II	Ea.	1738.00	43.00	1781.00
	Cat.III	Ea.	2628.00	43.00	2671.00
	(c) 100Amp/125 Amp				
	Cat.II	Ea.	3594.00	60.00	3654.00
	Cat.III	Ea.	4339.00	60.00	4399.00
	(d) 200 Amp				
	Cat.II	Ea.	5577.00	94.00	5671.00
	Cat.III	Ea.	6729.00	94.00	6823.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(e) 250 Amp				
	Cat.II	Ea.	6128.00	94.00	6222.00
	Cat.III	Ea.	7967.00	94.00	8061.00
	(f) 300/320 Amp				
	Cat.II	Ea.	7034.00	128.00	7162.00
	Cat.III	Ea.	10848.00	128.00	10976.00
	(g) 400 Amp				
	Cat.II	Ea.	9128.00	128.00	9256.00
	Cat.III	Ea.	11551.00	128.00	11679.00
	(h) 630 Amp				
	Cat.II	Ea.	17984.00	195.00	18179.00
	Cat.III	Ea.	19746.00	195.00	19941.00
	(i) 800 Amp				
	Cat.II	Ea.	21314.00	280.00	21594.00
	Cat.III	Ea.	23958.00	280.00	24238.00
3-3-3.	Approved make Four Pole LT Heavy Duty Switch Disconnecter Fuse Unit Cubical type for panel mounting complete with operating mechanism suitable to operate on 415V A.C. With HRC fuses of suitable load confirming to IS. 13947 (Part I & III). of following capacities				
	(a) 32 Amp				
	Cat.II	Ea.	1611.00	43.00	1654.00
	Cat.III	Ea.	1886.00	43.00	1929.00
	(b) 63 Amp				
	Cat.II	Ea.	2051.00	43.00	2094.00
	Cat.III	Ea.	2492.00	43.00	2535.00
	(c) 125 Amp				
	Cat.II	Ea.	5276.00	64.00	5340.00
	Cat.III	Ea.	5996.00	64.00	6060.00
	(d) 200 Amp				
	Cat.II	Ea.	6729.00	94.00	6823.00
	Cat.III	Ea.	7899.00	94.00	7993.00
	(e) 250 Amp				
	Cat.II	Ea.	8831.00	94.00	8925.00
	Cat.III	Ea.	9162.00	94.00	9256.00
	(f) 315/320 Amp				
	Cat.II	Ea.	10662.00	136.00	10798.00
	Cat.III	Ea.	11433.00	136.00	11569.00
	(g) 400 Amp				
	Cat.II	Ea.	11984.00	136.00	12120.00
	Cat.III	Ea.	12865.00	136.00	13001.00
	(h) 630 Amp				
	Cat.II	Ea.	19068.00	212.00	19280.00
	Cat.III	Ea.	21272.00	212.00	21484.00
	(i) 800 Amp				
	Cat.II	Ea.	22314.00	272.00	22586.00
	Cat.III	Ea.	24517.00	272.00	24789.00
3-3-4.	Supplying & erecting following spare parts for panel mounting Switch Disconnecter Fuse Units				
3-3-4-1	Operational Handle Assembly Complete for				
	(i) 32 / 63 / 125 Amps	Ea.	390.00	26.00	416.00
	(ii) 200 / 250 / 320 / 400 / 630 / 800 Amps	Ea.	708.00	39.00	747.00
3-3-4-2	Operating Shaft (Extensible) for				
	(i) 32 / 63 / 125 Amps	Ea.	89.00	22.00	111.00
	(ii) 200 / 250 / 320 / 400 / 630 / 800 Amps	Ea.	132.00	22.00	154.00
3-3-4-3	Cable Terminal ('Z" Type) Set of Two for				
	(i)200 / 250 Amps	Ea.	479.00	22.00	501.00
	(ii) 320 / 400 Amps	Ea.	636.00	26.00	662.00
	(iii) 630 / 800 Amps	Ea.	878.00	39.00	917.00
3-3-4-4	Cable Terminal ('Plain" Type)Set of Four for				
	(i) 32 / 63 Amps	Ea.	361.00	22.00	383.00
	(ii) 125 / 200 Amps	Ea.	780.00	26.00	806.00
	(iii) 250 / 320 Amps	Ea.	1284.00	39.00	1323.00
	(iv) 400 / 630 / 800 Amps	Ea.	1496.00	39.00	1535.00
3-3-4-5	HRC Fuse Contacts Set of six for				
	(i) 32 / 63 Amps	Ea.	395.00	22.00	417.00
	(ii) 125 Amps	Ea.	797.00	26.00	823.00
	(iii) 200 / 250 / 320 / 400 Amps	Ea.	1556.00	39.00	1595.00
	(iv) 630 / 800 Amps	Ea.	2598.00	39.00	2637.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-3-4-6	Moving Contact finger of Set of Six for 32 / 63 / 125 Amps	Ea.	395.00	39.00	434.00
3-3-4-7	Moving Contact finger of Set of Eight for 200 / 250 / 320 / 400 / 630 / 800 Amps	Ea.	1861.00	64.00	1925.00
3-3-4-8	Neutral Link for				
	(i) 32 / 63 / 125 Amps	Ea.	119.00	17.00	136.00
	(ii) 200 / 250 / 320 / 400 / 630 / 800 Amps	Ea.	250.00	22.00	272.00
SECTION 3-4 MOULDED CASE CIRCUIT BREAKERS					
Note:-1 Add Rs. 10% extra for housing/Encloser of MCCB for Item No 3-4-1 to 3-4-12 (The Enclosures should be used of same company of MCCBs to be used) *Add 35% additional for microprocessor type of mccb in place of conventional for item no.3-4-1 to 3-4-12					
3-4-1.	Providing and erecting Approved make Four pole moulded case circuit breaker having breaking capacity ICU of 25 KA. at 415 V, having normal current rating up to 25 A to 100A. with Fixed thermal & magnetic release suitable to work on A.C. supply 50 c/s. with all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing.				
	Cat-II	Ea.	4649.00	128.00	4777.00
	ICS=100% of ICU only Cat III	Ea.	5984.00	128.00	6112.00
3-4-2.	Providing and erecting Approved make Four pole moulded case circuit breaker having breaking capacity ICU of 35 KA. at 415 V. having normal current rating 125A. with Fixed thermal & magnetic release suitable to work on A.C. supply 50 c/s. with all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing.				
	Cat-II	Ea.	6509.00	128.00	6637.00
	ICS=100% of ICU only Cat III	Ea.	7848.00	128.00	7976.00
3-4-3.	Providing and erecting Approved make Four pole moulded case circuit breaker having breaking capacity ICU of 35 KA. at 415 V. having Normal current rating 200A. with variable Thermal & magnetic release suitable to work on A.C. supply 50 c/s. with all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing.				
	Cat-II	Ea.	13009.00	128.00	13137.00
	ICS=100% of ICU only Cat III	Ea.	15933.00	128.00	16061.00
3-4-4.	Providing and erecting Approved make Four pole moulded case circuit breaker having breaking capacity ICU of 35 KA. and above at 415 V. having normal current rating 250A. with variable thermal & magnetic release suitable to work on A.C. supply 50 c/s. with all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing.				
	Cat-II	Ea.	17814.00	128.00	17942.00
	ICS=100% of ICU only Cat III	Ea.	20611.00	128.00	20739.00
3-4-5.	Providing and erecting Approved make Four pole moulded case circuit breaker having breaking capacity ICU of 50 KA and above at 415 V having Normal current rating 400A. with variable Thermal & magnetic release suitable to work on A.C. supply 50 c/s. With all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing.				
	Cat-II	Ea.	20691.00	178.00	20869.00
	ICS=100% of ICU only Cat III	Ea.	24801.00	178.00	24979.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-4-6.	Providing and erecting Approved make Four pole moulded case circuit breaker having breaking capacity ICU of 50 K.A. and above at 415 V having normal current rating up to 630A. with variable thermal & magnetic release suitable to work on A.C.supply 50 c/s. with all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing				
	Cat-II	Ea.	21772.00	178.00	21950.00
	ICS=100% of ICU only Cat III	Ea.	27717.00	178.00	27895.00
3-4-7.	Providing and erecting Approved make Four pole moulded case circuit breaker having breaking capacity ICU of 50 K.A. and above at 415 V having normal current rating 800A. with variable thermal & magnetic release suitable to work on A.C.supply 50 c/s. with all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing.				
	Cat-II	Ea.	25136.00	238.00	25374.00
	ICS=100% of ICU only Cat III	Ea.	30191.00	238.00	30429.00
3-4-8.	Providing and erecting Approved make Three pole moulded case circuit breaker having breaking capacity ICU of 25 K.A. at 415 V having normal current rating up to 25 A to 100A. with Fixed thermal & magnetic release suitable to work on A.C. supply 50 c/s. with all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing.				
	Cat-II	Ea.	3051.00	128.00	3179.00
	ICS=100% of ICU only Cat III	Ea.	5174.00	128.00	5302.00
3-4-9.	Providing and erecting Approved make Three pole moulded case circuit breaker having breaking capacity/strength ICU of 35 K.A. at 415 V. having normal current rating 125A. with Fixed thermal & magnetic release suitable to work on A.C.supply 50 c/s. with all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing.				
	Cat-II	Ea.	4670.00	128.00	4798.00
	ICS=100% of ICU only Cat III	Ea.	6382.00	128.00	6510.00
3-4-10.	Providing and erecting Approved make Three pole moulded case circuit breaker having breaking capacity/strength ICU of 35 K.A. and above at 415 V. having Normal current rating 200A. with variable Thermal & magnetic release suitable to work on A.C.supply 50 c/s. with all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing.				
	Cat-II	Ea.	13030.00	128.00	13158.00
	ICS=100% of ICU only Cat III	Ea.	15293.00	128.00	15421.00
3-4-11.	Providing and erecting Approved make Three pole moulded case circuit breaker having breaking capacity/strength ICU of 50 K.A. and above at 415V. having normal current rating 250A. with variable thermal & magnetic release suitable to work on A.C.supply 50 c/s. with all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing.				
	Cat-II	Ea.	17551.00	128.00	17679.00
	ICS=100% of ICU only Cat III	Ea.	21937.00	128.00	22065.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-4-12.	Providing and erecting Approved make Three pole moulded case circuit breaker having breaking capacity/strength ICU of 50 K.A. and above at 415 V having Normal current rating 400A.with variable Thermal & magnetic release suitable to work on A.C.supply 50 c/s. With all internal connections, spreader tinned copper & complete erected in existing 16 G.M.S. housing.				
	Cat-II	Ea.	17746.00	178.00	17924.00
	ICS=100% of ICU only Cat III	Ea.	24801.00	178.00	24979.00
3-4-13.	Providing and erecting Approved make Earth fault Relay suitable to mount with inter connection suitable to following size of moulded case circuit breaker having CT ratio & MCCB rating as following along with shunt trip 220V AC. with all internal connections & complete erected in existing M.S.housing..				
	(1) 15 A -100 A , CT Ratio 1/100	Ea.	4513.00	128.00	4641.00
	(2) 125 A -200 A , CT Ratio 1/200	Ea.	4806.00	128.00	4934.00
	(3) 250 A -400 A , CT Ratio 1/400	Ea.	5234.00	128.00	5362.00
	(4) 600 A -800 A , CT Ratio 1/800	Ea.	5869.00	128.00	5997.00
3-4-14	Providing and erecting following additional parts for panel mounting MCCBs				
	(A)Extended operating rotary handle with pad lock with three position trip,off,on suitable for 25A to 250 A panel mounting cat-III	Ea.	780.00	85.00	865.00
	(B)Extended operating rotary handle with pad lock with three position trip,off,on suitable for 400A to 630 A panel mounting cat-III	Ea.	1170.00	128.00	1298.00
SECTION 3-5 AIR CIRCUIT BREAKERS					
3-5-1.	providing and erecting Approved make standard manually operated fixed type 3 Pole Air circuit breaker. Having 50 kA breaking capacity ,Vsr=690 v, Ui=1kv ,impulse voltage=12 kv with ICU=ICS=ICW (1 sec), with following type of relay and accessories.				
	(1) Equipped with DN-1 magneto thermal release, CTs & 6NO + 6NC auxiliary contacts & secondary isolating contacts of following current ratings.				
	(a) 400Amp Cat III	Ea.	39831.00	687.00	40518.00
	(b) 630Amp Cat III	Ea.	40509.00	687.00	41196.00
	(c) 800Amp Cat III	Ea.	40933.00	823.00	41756.00
	(d) 1000Amp Cat III	Ea.	43984.00	823.00	44807.00
	(e) 1250Amp Cat III	Ea.	55000.00	975.00	55975.00
	(f) 1600Amp Cat III	Ea.	63602.00	1272.00	64874.00
	(g) 2000 Amp Cat III	Ea.	72289.00	1272.00	73561.00
	(2) with microprocessor Release with over load, short circuit, earth fault protection (L.S.I.G.) and metering display in modular design with LED display and Test Trip button facility, CTs and auxiliary contacts, of following current ratings				
	(a) 630Amp Cat III	Ea.	53560.00	687.00	54247.00
	(b) 800Amp Cat III	Ea.	66865.00	823.00	67688.00
	(c) 1000Amp Cat III	Ea.	68475.00	823.00	69298.00
	(d) 1250Amp Cat III	Ea.	80085.00	975.00	81060.00
	(e) 1600Amp Cat III	Ea.	82373.00	1272.00	83645.00
	(f) 2000 Amp Cat III	Ea.	100297.00	1272.00	101569.00
	(g) 2500 Amp Cat III	Ea.	118645.00	1272.00	119917.00
3-5-2.	providing and erecting Approved make standard manually operated fixed type 4 Pole Air circuit breaker. Having following kA breaking capacity with ICU=ICS=ICW (1 sec),Vsr=690 v, Ui=1kv with following type of relay and accessories.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(1) Equipped with DN-1 magneto thermal release, CTs & 6NO + 6NC auxiliary contacts & secondary isolating contacts of following current ratings				
	(A) 800Amp 50kA Cat III	Ea.	76060.00	823.00	76883.00
	(B) 1000Amp , 50 kA Cat III	Ea.	81077.00	823.00	81900.00
	(C) 1250Amp , 50 kA Cat III	Ea.	98628.00	1017.00	99645.00
	(D) 1600Amp , 50 kA Cat III	Ea.	103645.00	1017.00	104662.00
	(E) 2000 Amp , 50/55 kA Cat III	Ea.	119331.00	1272.00	120603.00
	(F) 2500 Amp, 60 kA Cat III	Ea.	141975.00	1272.00	143247.00
	(2) with microprocessor Release with over load, short circuit, earth fault protection (L.S.I.G.) and metering display in modular design with LED display and Test Trip button facility, CTs and auxiliary contacts, of following current ratings.				
	(A) 800Amp 50kA Cat III	Ea.	83348.00	823.00	84171.00
	(B) 1000Amp , 50 kA Cat III	Ea.	87289.00	823.00	88112.00
	(C) 1250Amp , 50 kA Cat III	Ea.	116017.00	1017.00	117034.00
	(D) 1600Amp , 50 kA Cat III	Ea.	119492.00	1017.00	120509.00
	(E) 2000 Amp , 50/55 kA Cat III	Ea.	130933.00	1272.00	132205.00
	(F) 2500 Amp, 60 kA Cat III	Ea.	151611.00	1272.00	152883.00
	(G) 3200 Amp, 60 kA Cat III	Ea.	193077.00	1441.00	194518.00
3-5-3.	providing and erecting Approved make standard Draw out type 3 Pole Air circuit breaker. Having following kA breaking capacity with ICU=ICS=ICW (1 sec)Vsr=690 v, Ui=1kv ,impulse voltage=12 kv with following type of relay and accessories.				
	(1) Manual Draw out type (MDO) with following type of relay system				
	(A) Equipped with DN-1 magneto thermal release, CTs & 6NO + 6NC auxiliary contacts & secondary isolating contacts of following current ratings.				
	(i) 800Amp 50 kA Cat III	Ea.	76950.00	823.00	77773.00
	(ii) 1000Amp 50 kA Cat III	Ea.	82628.00	823.00	83451.00
	(iii) 1250Amp 50 kA Cat III	Ea.	104746.00	1102.00	105848.00
	(iv) 1600Amp 50 kA Cat III	Ea.	113475.00	2289.00	115764.00
	(v) 2000 Amp 50kA Cat III	Ea.	136441.00	1992.00	138433.00
	(vi) 2500 Amp 60kA Cat III	Ea.	164662.00	1992.00	166654.00
	(vii) 3200 Amp 75kA Cat III	Ea.	215373.00	2543.00	217916.00
	(B) with microprocessor Release with over load, short circuit, earth fault protection (L.S.I.G.) and metering display in modular design with LED display and Test Trip button facility, CTs and auxiliary contacts, of following current ratings				
	(i) 800Amp 50 kA Cat III	Ea.	106153.00	823.00	106976.00
	(ii) 1000Amp 50 kA Cat III	Ea.	109492.00	823.00	110315.00
	(iii) 1250Amp 50 kA Cat III	Ea.	128721.00	1102.00	129823.00
	(iv) 1600Amp 50 kA Cat III	Ea.	140424.00	1441.00	141865.00
	(v) 2000 Amp 50kA Cat III	Ea.	171348.00	1992.00	173340.00
	(vi) 2500 Amp 60kA Cat III	Ea.	195585.00	1992.00	197577.00
	(vii) 3200 Amp 65kA Cat III	Ea.	251526.00	2543.00	254069.00
	(viii) 4000 Amp 80kA Cat III	Ea.	301780.00	2755.00	304535.00
	(2) Add Rs. 30500.00 in above said item for Electrically Draw out type (EDO) type in place of manual draw out (MDO)				
3-5-4.	Approved make standard Draw out type 4 Pole Air circuit breaker. Having 50 kA breaking capacity with ICU=ICS=ICW (1 sec)Vsr=690 v, Ui=1kv ,impulse voltage=12 kv with following type of relay and accessories.				
	(1) Manual Draw out type (MDO) with following type of relay system				
	(A) Equipped with DN-1 magneto thermal release, CTs & 6NO + 6NC auxiliary contacts & secondary isolating contacts of following current ratings.				
	(i) 800Amp 50 kA Cat III	Ea.	104323.00	823.00	105146.00
	(ii) 1000Amp 50 kA Cat III	Ea.	110170.00	823.00	110993.00
	(iii) 1250Amp 50 kA Cat III	Ea.	128390.00	1102.00	129492.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(iv) 1600Amp 50 kA Cat III	Ea.	139492.00	1441.00	140933.00
	(v) 2000 Amp 50kA Cat III	Ea.	178051.00	1992.00	180043.00
	(vi) 2500 Amp 60kA Cat III	Ea.	210594.00	1992.00	212586.00
	(vii) 3200 Amp 75kA Cat III	Ea.	266017.00	2543.00	268560.00
	(B) with microprocessor Release with over load, short circuit, earth fault protection and metering display in modular design with LED display and Test Trip button facility, CTs and auxiliary contacts, of following current ratings.				
	(i) 800Amp 50 kA Cat III	Ea.	132068.00	823.00	132891.00
	(ii) 1000Amp 50 kA Cat III	Ea.	137916.00	823.00	138739.00
	(iii) 1250Amp 50 kA Cat III	Ea.	158814.00	1102.00	159916.00
	(iv) 1600Amp 50 kA Cat III	Ea.	171348.00	1441.00	172789.00
	(v) 2000 Amp 50kA Cat III	Ea.	212306.00	1992.00	214298.00
	(vi) 2500 Amp 60kA Cat III	Ea.	249068.00	1992.00	251060.00
	(vii) 3200 Amp 75kA Cat III	Ea.	308433.00	2543.00	310976.00
3-5-5.	Providing & erecting Accessories For Air Circuit Breakers as follows:				
	(A) Six way Isolating Contact block	Ea.	1365.00	68.00	1433.00
	(B) Lockable Trip Push Button Type A,B,C,D	Ea.	1958.00	136.00	2094.00
	(C) Lockable Trip Push Button Kit L, M, LM, MN	Ea.	9204.00	272.00	9476.00
	(D) Locking of ACB in Isolated Position	Ea.	2009.00	136.00	2145.00
	(E) Locking of ACB in Any Position	Ea.	2009.00	136.00	2145.00
	(F) Racking Inter Lock	Ea.	3695.00	272.00	3967.00
	(G) Door Inter Lock	Ea.	2009.00	136.00	2145.00
3-5-6.	Providing & erecting additional parts for Air Circuit Breakers as follows:				
	(A) Auxiliary Contact Block for CN-CS 800 to 2500 & 2 NO + 2 NC	Ea.	1526.00	128.00	1654.00
	(B) Auxiliary Contact Block for CN-CS 800 to 2500 & 6 NO + 6 NC	Ea.	2484.00	272.00	2756.00
	(C) Arc Chutes for 800 / 1000 / 1250 / 1600 A ACBs	Ea.	2450.00	136.00	2586.00
	(D) Arc Chutes for 2000 / 2500 / 3200 A ACBs	Ea.	2890.00	136.00	3026.00
	(E) Shutter Accessories for 800 / 1000 / 1250/ 1600 A ACBs	Ea.	814.00	68.00	882.00
	(F) Shutter Accessories for 2000 / 2500 / 3200 A ACBs	Ea.	924.00	68.00	992.00
	(G) Shunt Release Type EA:24/48 V, 110V, 220V DC	Ea.	1899.00	136.00	2035.00
	(H) Shunt Release Type EA1 : 240V AC	Ea.	1899.00	136.00	2035.00
	(I) Under Voltage Release Type MV(2) : 240V AC, 415 V AC	Ea.	2729.00	136.00	2865.00
	(J) Earth Fault Release Type EF 1 (10%, 20%)	Ea.	1958.00	136.00	2094.00
	(K) Earth Fault Release Type EF 2 (30%, 40%, 50%)	Ea.	1958.00	136.00	2094.00
	(L) Thermal Magnetic Release Type DN1	Ea.	8602.00	212.00	8814.00
	(M) CTs for 800 C / 1000 C with 400A / 640A and 800A taps for Fixed & Drawout Type ACBs	Ea.	2543.00	212.00	2755.00
	(N) CTs for 1250 C / 1600 C for Fixed & Drawout Type ACBs	Ea.	2712.00	212.00	2924.00
	(O) CTs for 2000 C & higher size With required taps for Fixed & Drawout Type ACBs	Ea.	3094.00	212.00	3306.00
	(P) Fixed Type Arcing Contacts Kit for 3 Pole ACB of 800A to 1600A	Kit	1933.00	272.00	2205.00
	(Q) Fixed Type Arcing Contacts ACB of 2000A to 2500A	Ea.	238.00	43.00	281.00
	(R) Moving Type Arcing Contacts Kit for 3 Pole ACB of 800A to 1600A	Ea.	1933.00	272.00	2205.00
	(S) Moving Type Arcing Contacts for 2000A to 2500A	Ea.	238.00	43.00	281.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 3-6 CHANGEOVER SWITCHES.					
3-6-1	Supply of Approved make Iron Clad or metal clad four pole change over switch 415V. confirming to IS of following capacity (A) 16A				
	Cat I	Ea.	560.00	0.00	560.00
	Cat. II	Ea.	933.00	0.00	933.00
	(B) 32A				
	Cat I	Ea.	772.00	0.00	772.00
	Cat. II	Ea.	1263.00	0.00	1263.00
3-6-2.	Erection & connection charges for 16 A / 32A Change Over Switch as following				
	(a) on existing wooden block / A.I.frame	Ea.	9.00	26.00	35.00
	(b) on polished wooden block.	Ea.	17.00	26.00	43.00
	(c) on angle iron frame	Ea.	77.00	26.00	103.00
3-6-3.	Supply of Approved make Iron Clad or metal clad four pole change over switch 415V. confirming to IS of following capacity (A) 63 A				
	Cat I	Ea.	1924.00	0.00	1924.00
	Cat II	Ea.	3526.00	0.00	3526.00
	Cat III	Ea.	3967.00	0.00	3967.00
	(B) 100 A / 125 A				
	Cat I	Ea.	6941.00	0.00	6941.00
	Cat II	Ea.	11839.00	0.00	11839.00
	Cat III	Ea.	12119.00	0.00	12119.00
3-6-4.	Erection & connection charges for 63 A / 100A / 125 A change over switch as following				
	(a) on existing wooden block / A.I.frame	Ea.	34.00	34.00	68.00
	(b) Erection on New angle iron frame duly painted with red oxide	Ea.	102.00	34.00	136.00
3-6-5.	Supply of Approved make Iron Clad or metal clad four pole change over switch 415V. confirming to IS of following capacity (A) 200 A / 250 A				
	Cat-II	Ea.	10382.00	0.00	10382.00
	Cat-III	Ea.	17738.00	0.00	17738.00
	(B) 400 A				
	Cat-II	Ea.	17162.00	0.00	17162.00
	Cat-III	Ea.	25848.00	0.00	25848.00
	(C) 630 A				
	Cat-II	Ea.	27204.00	0.00	27204.00
	Cat-III	Ea.	40255.00	0.00	40255.00
	(D) 800 A				
	Cat-II	Ea.	33941.00	0.00	33941.00
	Cat-III	Ea.	54348.00	0.00	54348.00
3-6-6.	Erection & connection charges for 200A/ 250A / 300 A /325 A HRC TPN as following				
	(a) on existing wooden block / Angle Iron frame	Ea.	26.00	43.00	69.00
	(b) Erection on New angle iron frame duly painted with red oxide .	Ea.	111.00	60.00	171.00
3-6-7.	Erection & connection charges for 400A/ 630A / 800A Change Over Switch as following				
	(a) on existing wooden block / Angle Iron frame	Ea.	77.00	111.00	188.00
	(b) Erection on New angle iron frame duly painted with red oxide .	Ea.	195.00	212.00	407.00
3-6-8.	Supplying & erecting approved make Four Pole 415V change over switch interior for panel mounting with operating mechanism A.C.23 duty confirming to IS for (A) 32-40A				
	Cat-II	Ea.	1619.00	43.00	1662.00
	Cat-III	Ea.	2543.00	43.00	2586.00
	(B) 63 A				
	Cat-II	Ea.	3467.00	51.00	3518.00
	Cat-III	Ea.	4687.00	51.00	4738.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(C)100-125A				
	Cat-II	Ea.	4848.00	111.00	4959.00
	Cat-III	Ea.	7602.00	111.00	7713.00
	(D)200A				
	Cat-II	Ea.	8678.00	136.00	8814.00
	Cat-III	Ea.	11984.00	136.00	12120.00
	(E)250A / 320A				
	Cat-II	Ea.	11984.00	136.00	12120.00
	Cat-III	Ea.	13085.00	136.00	13221.00
	(F)400A				
	Cat-II	Ea.	14111.00	212.00	14323.00
	Cat-III	Ea.	21823.00	212.00	22035.00
	(G) 630 A. Cat.III	Ea.	25615.00	276.00	25891.00
	(H) 800 A Cat. III	Ea.	34848.00	407.00	35255.00
	(I) 1000 A Cat. III	Ea.	54678.00	407.00	55085.00
	(J) 1250 A Cat. III	Ea.	109746.00	424.00	110170.00
	(K) 1500 A Cat. III	Ea.	126272.00	424.00	126696.00
	(L) 2000 A Cat. III	Ea.	175806.00	467.00	176273.00
SECTION 3-7 BUSBAR CHAMBERS.					
3-7-1.	Providing and erecting busbar chamber confirming to IS-375 fabricated from 16 G.M.S. sheet, dust & vermin proof having hinged door with rubber gasket and necessary busbar supports with Aluminium busbar having current density not more than 0.8 Amp. / sq.mm (Rated current / cross section area) duly wrapped with colour insulation tape for phase sequence, three phase & neutral each Suitable for following current capacity with necessary painting mounted on wall or pedestal frame of required size with necessary connections.				
	(A) Suitable for 63/ 100 Amp. Capacity	Rn.Mtr	2424.00	153.00	2577.00
	(B) Suitable for 200 Amp. Capacity	Rn.Mtr	2844.00	187.00	3031.00
	(C) Suitable for 300 Amp. capacity	Rn.Mtr	4856.00	234.00	5090.00
	(D) Suitable for 400 Amp. capacity	Rn.Mtr	5395.00	301.00	5696.00
3-7-2.	Providing and erecting busbar chamber confirming to IS-375 fabricated from 16 G.M.S. sheet, dust & vermin proof having hinged door with rubber gasket and necessary busbar supports with COPPER busbar having current density not more than 1.6 Amp. / sq.mm (Rated current / cross section area) duly wrapped with colour insulation tape for phase sequence, three phase & neutral each suitable for following current capacity with necessary painting mounted on wall or pedestal frame of required size with necessary connections.				
	(A) Suitable for 63/100 Amp. capacity	Rn.Mtr	4229.00	149.00	4378.00
	(B) Suitable for 200 Amp. capacity	Rn.Mtr	5488.00	187.00	5675.00
	(C) Suitable for 300 Amp. capacity	Rn.Mtr	8221.00	234.00	8455.00
	(D) Suitable for 400 Amp. capacity	Rn.Mtr	9933.00	306.00	10239.00
SECTION 3-8 / PANEL MOUNTING BUSBARS					
3-8-1.	Supplying and erecting triple pole & neutral 440V/ 500V panel mounting Aluminium Busbars with four equal Nos. of bus having current density not more than 0.8 Amp. / sq.mm (Rated current / cross section area) duly wrapped with colour insulating tape for phase sequence of following current carrying capacity, erected with necessary bus bar supports /insulators, main cable socket to each busbar,erected in existing cubical panel with necessary connections.				
	(A) Suitable for 100 Amp. Capacity	Rn.Mtr	577.00	77.00	654.00
	(B) Suitable for 200 Amp. Capacity	Rn.Mtr	950.00	77.00	1027.00
	(C) Suitable for 300 Amp. Capacity	Rn.Mtr	1306.00	149.00	1455.00
	(D) Suitable for 400 Amp. Capacity	Rn.Mtr	2034.00	149.00	2183.00
	(E) Suitable for 630 Amp. capacity	Rn.Mtr	2882.00	149.00	3031.00
	(F) Suitable for 800 Amp. capacity	Rn.Mtr	5984.00	195.00	6179.00
	(G) Suitable for 1200 Amp.capacity	Rn.Mtr	7645.00	234.00	7879.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-8-2.	Supplying and erecting triple pole & neutral 440V / 500V panel mounting Copper Busbars with four equal Nos. of electrolyte bus having current density not more than 1.6 Amp. / sq.mm (Rated current / cross section area) duly wrapped with colour insulating tape for phase sequence of following current carrying capacity, erected with necessary bus bar supports /insulators, main cable socket to each bar, erected in existing cubical panel with necessary connections.				
	(A) Suitable for 100 Amp. Capacity	Rn.Mtr	1865.00	77.00	1942.00
	(B) Suitable for 200 Amp. capacity	Rn.Mtr	3094.00	77.00	3171.00
	(C) Suitable for 300 Amp. capacity	Rn.Mtr	4712.00	149.00	4861.00
	(D) Suitable for 400 Amp. capacity	Rn.Mtr	7098.00	149.00	7247.00
	(E) Suitable for 630 Amp. capacity	Rn.Mtr	10306.00	149.00	10455.00
	(F) Suitable for 800 Amp. capacity	Rn.Mtr	12882.00	187.00	13069.00
	(G) Suitable for 1200 Amp. Capacity	Rn.Mtr	16102.00	234.00	16336.00
SECTION 3-9 FUSES.					
3-9-1.	Supplying KITKAT pattern porcelain cut-out fuse with base of following current capacity erected on existing block board.				
	(i) 16 A. 250 V .	Ea.	18.00	8.00	26.00
	(ii) 16 A. 500 V.	Ea.	35.00	8.00	43.00
	(iii) 32 A. 250/500 V.	Ea.	65.00	8.00	73.00
	(iv) 63 A 500 V	Ea.	132.00	13.00	145.00
	(v) 100 A. 500 V.	Ea.	250.00	26.00	276.00
	(vi) 200 A. 500 V.	Ea.	373.00	43.00	416.00
3-9-2.	Supplying and erecting approved make 415V bakelite fuse fittings for front connection / busbar type, to accommodate HRC fuse link, with spin - riveted brass contact, having thermo plastic inflammable material & single piece extruded brass box contact to lock with adequate cable hole to accommodate aluminium conductors suitable for (without HRC fuse)				
	(A) 16 Amp.	Ea.	85.00	13.00	98.00
	(B) 32 Amp.	Ea.	119.00	13.00	132.00
	(C) 63 Amp.	Ea.	153.00	13.00	166.00
	(D) 100 Amp.	Ea.	424.00	26.00	450.00
3-9-3.	Supplying Knife / Blade / DIN type HRC fuse link capable to withstand 80 K.A. confirms to I.S. 13703 for following current capacity				
	(A) 63 Amp. to 100 Amp.(Size 000)	Ea.	212.00	0.00	212.00
	(B) 63 Amp to 100 Amp (Size 00)	Ea.	306.00	0.00	306.00
	(C) 125 Amp to 160 Amp (Size 00)	Ea.	365.00	0.00	365.00
	(D) 100 Amp to 200 Amp (Size 0)	Ea.	441.00	0.00	441.00
	(E) 125 Amp to 200 Amp (Size I)	Ea.	560.00	0.00	560.00
	(F) 250 Amp (Size I)	Ea.	628.00	0.00	628.00
	(G)200 Amp to 400 Amp (Size II)	Ea.	823.00	0.00	823.00
	(H)400 Amp to 630 Amp (Size III)	Ea.	1263.00	0.00	1263.00
	(I) 800 Amp (Size III)	Ea.	1484.00	0.00	1484.00
3-9-4.	Supplying Bolted Connections (BS type) HRC fuse link capable to withstand 80KA confirms to I.S. 13703 for following current capacity				
	(A) up to 32 Amp.	Ea.	51.00	0.00	51.00
	(B) 36 Amp. to 63 Amp.	Ea.	68.00	0.00	68.00
	(C) 80 Amp. to 125 Amp.	Ea.	153.00	0.00	153.00
	(D) 126 Amp. to 200 Amp.	Ea.	221.00	0.00	221.00
	(E) 250 Amp. to 315 Amp.	Ea.	306.00	0.00	306.00
	(F) 400 Amp. to 450 Amp.	Ea.	712.00	0.00	712.00
	(G) 500 Amp. to 630 Amp.	Ea.	823.00	0.00	823.00
3-9-5.	Insulated Fuse Pulling Handle for Knife / Blade / DIN / Bolted Type HRC Fuse Link from 63 A to 800 A	Ea.	433.00	0.00	433.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 3-10 / MINIATURE CIRCUIT BREAKERS.					
3-10-1.(A)	providing and erecting Miniature circuit breaker single pole 0.5A to 2A system and having breaking capacity 10 KA to be erected in existing box. confirming to IS 8828/1996 with ISI Mark				
	Cat.III	Ea.	255.00	13.00	268.00
3-10-1.(B)	providing and erecting Miniature circuit breaker single pole 6A to 25A suitable to operate on 240 V A.C. system and having breaking capacity 10 KA to be erected in existing box. confirming to IS 8828/1996 with ISI Mark				
	Cat.I	Ea.	60.00	13.00	73.00
	Cat.II	Ea.	78.00	13.00	91.00
	Cat.III	Ea.	98.00	13.00	111.00
3-10-2.	Providing & erecting 240 V MCB double pole switch for motor & inductive load (C Curve) having 10 KA breaking capacity & confirms to IS : 8828 in existing box having following capacity				
	(A) 6 to 32 Amp.				
	Cat.I	Ea.	225.00	13.00	238.00
	Cat.II	Ea.	255.00	13.00	268.00
	Cat.III	Ea.	284.00	13.00	297.00
	(B) 40 Amp.				
	Cat.I	Ea.	217.00	13.00	230.00
	Cat.II	Ea.	263.00	13.00	276.00
	Cat.III	Ea.	314.00	13.00	327.00
3-10-3.	Providing & erecting 240 V MCB double pole switch for lighting Load (B Curve) having 10 KA breaking capacity & confirms to IS : 8828 in existing box having following capacity				
	(A) 6 to 32 Amp.				
	Cat.I	Ea.	204.00	13.00	217.00
	Cat.II	Ea.	225.00	13.00	238.00
	Cat.III	Ea.	263.00	13.00	276.00
	(B) 40 Amp.				
	Cat.I	Ea.	217.00	13.00	230.00
	Cat.II	Ea.	238.00	13.00	251.00
	Cat.III	Ea.	280.00	13.00	293.00
3-10-4.	Providing & erecting 415V MCB Four Pole Switch for Lighting Load (B curve) having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity				
	(a) 6 to 32 Amp.				
	Cat.I	Ea.	382.00	26.00	408.00
	Cat.II	Ea.	450.00	26.00	476.00
	Cat.III	Ea.	547.00	26.00	573.00
	(b)40 Amp.				
	Cat.I	Ea.	420.00	26.00	446.00
	Cat.II	Ea.	496.00	26.00	522.00
	Cat.III	Ea.	606.00	26.00	632.00
3-10-5.	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load (C Curve) having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity				
	(a) 6 to 32 Amp.				
	Cat.I	Ea.	420.00	26.00	446.00
	Cat.II	Ea.	479.00	26.00	505.00
	Cat.III	Ea.	564.00	26.00	590.00
	(b)40 Amp.				
	Cat.I	Ea.	479.00	26.00	505.00
	Cat.II	Ea.	534.00	26.00	560.00
	Cat.III	Ea.	636.00	26.00	662.00
	(c)63 Amp.				
	Cat.I	Ea.	534.00	26.00	560.00
	Cat.II	Ea.	615.00	26.00	641.00
	Cat.III	Ea.	704.00	26.00	730.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-10-6	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load (C Curve) having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity				
	(a) 6 to 32 Amp.				
	Cat.I	Ea.	441.00	26.00	467.00
	Cat.II	Ea.	458.00	26.00	484.00
	Cat.III	Ea.	556.00	26.00	582.00
	(b)40 Amp.				
	Cat.I	Ea.	458.00	26.00	484.00
	Cat.II	Ea.	517.00	26.00	543.00
	Cat.III	Ea.	615.00	26.00	641.00
	(c)63 Amp.				
	Cat.I	Ea.	509.00	26.00	535.00
	Cat.II	Ea.	585.00	26.00	611.00
	Cat.III	Ea.	683.00	26.00	709.00
3-10-6-A	Supplying & erecting 20 Amp 10 KA 'C Curve' single pole MCB with 20 Amp. Plug socket, company fabricated powder coated sheet steel enclosure erected as directed with connection.				
	[A] Metal Clad Socket with metal clad top				
	Cat.I	Ea.	331.00	60.00	391.00
	Cat.II	Ea.	412.00	60.00	472.00
	Cat.III	Ea.	462.00	60.00	522.00
	[B] 15 Amp. / 5 Amp. Five pin Universal Socket				
	Cat.I	Ea.	369.00	60.00	429.00
	Cat.II	Ea.	526.00	60.00	586.00
	Cat.III	Ea.	594.00	60.00	654.00
3-10-6-B	Supplying & erecting approved make Electronics Starter and relay for air conditioners in ABS plastic moulded housing. Company fabricated with bakelite terminal for connection with silver coating bimetallic contact in switching device for o/p with following features. (1) Low Voltage Protection below 130 V (2) High Voltage protection above 270 V (3) Overload protection for 2-5, 4-10, 8-14, 10-16, 14-22 Amp. (inverse time chara-) (4) Indicating LEDs for AC on LV, HV, O/L, T/D (5) With unique feature of 3 minute of time delay	Ea.	818.00	60.00	878.00
3-10-7.	Providing and erecting double pole Miniature isolator A.C. 22 duty confirms to IS 13947-3 240V 40A in existing box.				
	Cat.I	Ea.	191.00	13.00	204.00
	Cat.II	Ea.	250.00	13.00	263.00
	Cat.III	Ea.	297.00	13.00	310.00
3-10-8.	Providing and erecting Three pole Miniature isolator A.C. 22 duty confirms to IS 13947-3 in existing box.				
	(a) for 40 Amp.				
	Cat.I	Ea.	314.00	26.00	340.00
	Cat.II	Ea.	361.00	26.00	387.00
	Cat.III	Ea.	441.00	26.00	467.00
	(b) for 63 Amp.				
	Cat.I	Ea.	361.00	26.00	387.00
	Cat.II	Ea.	412.00	26.00	438.00
	Cat.III	Ea.	509.00	26.00	535.00
	(c) for 100 Amp.				
	Cat.I	Ea.	412.00	26.00	438.00
	Cat.II	Ea.	450.00	26.00	476.00
	Cat.III	Ea.	547.00	26.00	573.00
3-10-9.	Providing and erecting four pole Miniature isolator A.C. 22 duty confirms to IS 13947-3 in existing box.				
	(a) for 40 Amp.				
	Cat.I	Ea.	390.00	26.00	416.00
	Cat.II	Ea.	441.00	26.00	467.00
	Cat.III	Ea.	458.00	26.00	484.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(b) for 63 Amp.				
	Cat.I	Ea.	458.00	26.00	484.00
	Cat.II	Ea.	509.00	26.00	535.00
	Cat.III	Ea.	564.00	26.00	590.00
	(c) for 100 Amp.				
	Cat.I	Ea.	534.00	26.00	560.00
	Cat.II	Ea.	585.00	26.00	611.00
	Cat.III	Ea.	645.00	26.00	671.00
3-10-10.	Providing and erecting Two way Centre off Double pole MCB Change Over Switch (IS 13947-3 / IEC 60947-3) in existing box.				
	(a) for 25 Amp				
	Cat.I	Ea.	441.00	34.00	475.00
	Cat.II	Ea.	479.00	34.00	513.00
	Cat.III	Ea.	526.00	34.00	560.00
	(b) for 40 Amp.				
	Cat.I	Ea.	458.00	34.00	492.00
	Cat.II	Ea.	534.00	34.00	568.00
	Cat.III	Ea.	602.00	34.00	636.00
3-10-11.	Providing and erecting Two way Centre off Four pole MCB Change Over Switch (IS 13947-3 / IEC 60947-3) in existing box.				
	(a) for 25 Amp				
	Cat.I	Ea.	615.00	34.00	649.00
	Cat.II	Ea.	712.00	34.00	746.00
	Cat.III	Ea.	810.00	34.00	844.00
	(b) for 40 Amp				
	Cat.I	Ea.	996.00	34.00	1030.00
	Cat.II	Ea.	1221.00	34.00	1255.00
	Cat.III	Ea.	1297.00	34.00	1331.00
SECTION 3-11 MCB DISTRIBUTION BOARDS					
Note:- Enclosure Should be used of same company of MCB or MCB DP or RCCB For Item No 3-11-1 to 3-11-4. ADD 20% more for concealed erection of distribution board. 3-11- 5 to 3-11-8.					
3-11-1.	Half / One Module Blanking Plate of Standard Size.	Ea.	9.00	0.00	9.00
3-11-2.	Plastic enclosure fitted with DIN rail suitable for incorporating One / Two nos. MCB	Ea.	39.00	13.00	52.00
3-11-3.	Plastic enclosure fitted with DIN rail suitable for incorporating Three /Four nos. MCB	Ea.	94.00	13.00	107.00
3-11-4.	Sheets steel powder coated enclosure suitable for incorporating One/Two nos. MCB.	Ea.	162.00	13.00	175.00
3-11-5.	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for				
	(A) single phase incoming and horizontal single phase outgoing				
	(a) single door (IP-30)				
	(i)4 way	Ea.	314.00	38.00	352.00
	(ii)6 way	Ea.	539.00	38.00	577.00
	(iii)8 way	Ea.	640.00	56.00	696.00
	(iv)12 way	Ea.	793.00	66.00	859.00
	(v) 16 way	Ea.	954.00	75.00	1029.00
	(b) sheet steel double door (IP-43)				
	(i)4 way	Ea.	585.00	38.00	623.00
	(ii)6 way	Ea.	839.00	38.00	877.00
	(iii)8 way	Ea.	1085.00	56.00	1141.00
	(iv)12 way	Ea.	1412.00	66.00	1478.00
	(v) 16 way	Ea.	1589.00	75.00	1664.00
	(B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI)				
	(a) single door				
	(i)4 way	Ea.	1598.00	66.00	1664.00
	(ii)6 way	Ea.	1818.00	75.00	1893.00
	(iii)8 way	Ea.	2318.00	103.00	2421.00
	(iv)12 way	Ea.	2967.00	128.00	3095.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(b) sheet steel double door				
	(i) 4 way	Ea.	2250.00	66.00	2316.00
	(ii) 6 way	Ea.	2810.00	75.00	2885.00
	(iii) 8 way	Ea.	3276.00	103.00	3379.00
	(iv) 12 way	Ea.	3708.00	128.00	3836.00
	(v) 16 way	Ea.	4450.00	170.00	4620.00
3-11-6.	Supplying & erecting Sheet Steel powder coated Cable end termination Box to be mounted on Top or Bottom of the MCB Distribution Box for housing/covering Extra wires & Cables, suitable for following size of MCB DB Box.				
	(A) Single Phase 4 Way	Ea.	212.00	34.00	246.00
	(B) Single Phase 6 Way	Ea.	255.00	34.00	289.00
	(C) Single Phase 8 Way	Ea.	289.00	34.00	323.00
	(D) Single Phase 12 Way	Ea.	352.00	34.00	386.00
	(E) Three Phase 4 Way	Ea.	458.00	34.00	492.00
	(F) Three Phase 6 Way	Ea.	543.00	34.00	577.00
	(G) Three Phase 8 Way	Ea.	649.00	34.00	683.00
	(H) Three Phase 12 Way	Ea.	755.00	34.00	789.00
	(I) Three Phase 16 Way	Ea.	861.00	34.00	895.00
3-11-7.	Providing and erecting approved make thermo - plastic moulded distribution box for mounting MCB /RCCB having DIN rail transparent moulded flap 100Amp. copper bus strip for (Without MCB/RCCB)				
	a) For 7 way	Ea.	848.00	60.00	908.00
	b) For 18 way	Ea.	1390.00	60.00	1450.00
3-11-8.	Providing & erecting approved make thermo plastic MCB/RCCB distribution board having modular Double door with DIN rails, epoxy powder coated finish metal frame & door assembly with Acrylic/ Plastic door, spring & hinged pins complete with required PVC sleeved 32 / 63A copper Bus strips without MCB / RCCBs				
	(a) One Row 8 Module	Ea.	734.00	60.00	794.00
	(b) One Row 10 Module	Ea.	869.00	60.00	929.00
	(c) One Row 14 Module	Ea.	988.00	60.00	1048.00
	(d) Two Row 20 Module	Ea.	1814.00	94.00	1908.00
	(e) Two Row 28 Module	Ea.	2204.00	119.00	2323.00
	(f) Two Row 36 Module	Ea.	2640.00	119.00	2759.00
3-11-9	The Above all items of MCB, DB the cost of erection on New angle iron frame add following.				
	[A] up to 8 way single phase	Ea.	162.00	0.00	162.00
	[B] above single phase 8 way and all three phase DBs.	Ea.	246.00	0.00	246.00
3-11-10	Providing and erecting Sheet Steel powder coated <u>Vertical</u> MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with copper insulated busbar, isolated neutral bar, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3, suitable for 63/100 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used)				
	(A) 4 way outgoing	Ea.	5700.00	60.00	5760.00
	(B) 6 way outgoing	Ea.	6356.00	77.00	6433.00
	(C) 8 way outgoing	Ea.	8225.00	94.00	8319.00
	(D) 12 way outgoing	Ea.	10763.00	94.00	10857.00
3-11-11	Providing and erecting Sheet Steel powder coated <u>Vertical</u> MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with insulated copper busbar, isolated neutral link, earth bar and DIN rail, confirming to IS 13032 and BS 5486-1986, IP-54 suitable for 63/100 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used)				
	(A) 4 way outgoing	Ea.	9865.00	60.00	9925.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(B)6 way outgoing	Ea.	11967.00	94.00	12061.00
	(C)8 way outgoing	Ea.	13560.00	128.00	13688.00
	(D)12 way outgoing	Ea.	18327.00	153.00	18480.00
3-11-12	Providing and erecting Sheet Steel powder coated <u>Vertical</u> MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with copper insulated busbar, isolated neutral bar, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3, suitable for 250 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used)				
	(A)4 way outgoing	Ea.	9089.00	60.00	9149.00
	(B)6 way outgoing	Ea.	9746.00	77.00	9823.00
	(C)8 way outgoing	Ea.	11615.00	94.00	11709.00
	(D)12 way outgoing	Ea.	14153.00	94.00	14247.00
3-11-13	Providing and erecting Sheet Steel powder coated <u>Vertical</u> MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with insulated copper busbar, isolated neutral link, earth bar and DIN rail, confirming to IS 13032 and BS 5486-1986,IP-54 suitable for 250 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used)				
	(A)4 way outgoing	Ea	13255.00	60.00	13315.00
	(B)6 way outgoing	Ea	15356.00	94.00	15450.00
	(C)8 way outgoing	Ea	16950.00	128.00	17078.00
	(D)12 way outgoing	Ea	21717.00	153.00	21870.00
3-11-14.	Providing and erecting powder coated distribution board with WI-FI - flush / surface mounted double door (IP-42) fitted with size 330*375,CRCA sheet thickness 0.9mm,Genral Tolerance,Power Coting DFT 60-90 micron,Frame Thickness 1.2mm.,Frame & Cover Material Plastic with Nessesary Accessories		3280.00	60.00	3340.00
3-11-15.	Providing and erecting powder coated distribution board with WI-FI - flush / surface mounted double door (IP-42) fitted with size 475*398,CRCA sheet thickness 0.9mm,Genral Tolerance,Power Coting DFT 60-90 micron,Frame Thickness 1.2mm.,Frame & Cover Material Metal with Nessesary Accessories		4100.00	60.00	4160.00
SECTION 3-12 EARTH LEAKAGE CIRCUIT BREAKERS					
3-12-1.	providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on single phase 240 V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component. for following Max. rating erected as directed				
	(i) 25 Amps.DP				
	Cat. I	Ea.	1467.00	43.00	1510.00
	Cat. II	Ea.	1568.00	43.00	1611.00
	Cat. III	Ea.	1907.00	43.00	1950.00
	(ii) 40Amps. DP				
	Cat. I	Ea.	1585.00	43.00	1628.00
	Cat. II	Ea.	1662.00	43.00	1705.00
	Cat. III	Ea.	2170.00	43.00	2213.00
	(iii) 63 Amps. DP				
	Cat. I	Ea.	1797.00	43.00	1840.00
	Cat. II	Ea.	2102.00	43.00	2145.00
	Cat. III	Ea.	2585.00	43.00	2628.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-12-2.	Providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on 3 phase and neutral 415V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component for following Max. rating erected as directed.				
	(i) 25 Amps.FP				
	Cat. I	Ea.	1729.00	60.00	1789.00
	Cat. II	Ea.	1916.00	60.00	1976.00
	Cat. III	Ea.	2484.00	60.00	2544.00
	(ii) 40Amps. FP				
	Cat. I	Ea.	1848.00	60.00	1908.00
	Cat. II	Ea.	1992.00	60.00	2052.00
	Cat. III	Ea.	2551.00	60.00	2611.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(iii) 63 Amps. FP				
	Cat. I	Ea.	2026.00	60.00	2086.00
	Cat. II	Ea.	2365.00	60.00	2425.00
	Cat. III	Ea.	2950.00	60.00	3010.00
	(iv) 100 Amps. FP (100 mA Sensitivity)				
	Cat. II	Ea.	2424.00	60.00	2484.00
	Cat. III	Ea.	4212.00	60.00	4272.00
3-12-3	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed.				
	[a] 6A / 10A / 16A / 20A / 25A 2 pole single phase Cat. II	Ea.	1738.00	60.00	1798.00
	[b] 32A / 40A, 2 pole Single Phase Cat. II	Ea.	1865.00	60.00	1925.00
	[c] 63 A, 2 pole Single Phase Cat. II	Ea.	2255.00	60.00	2315.00
	[d] 6A to 25 A, 4 Pole Three Phase Cat. II	Ea.	1975.00	60.00	2035.00
	[e] 32A to 40 A, 4 Pole Three Phase Cat. II	Ea.	2085.00	60.00	2145.00
	[f] 63A, 4 pole Three Phase Cat. II	Ea.	2746.00	60.00	2806.00
3.12.4	Supplying & fixing box for housing RCCB + MCB combination made of 18 SWG sheet steel duly powder coated with gasket, dust & vermin proof bakelite shield two earthing terminals for following type of RCCB, RCCB + MCB				
	[a] For 2 pole	Ea.	229.00	43.00	272.00
	[b] For 4 Pole	Ea.	399.00	43.00	442.00
SECTION 3-13 / DANGER NOTICE BOARDS.					
3-13-1.	Providing and erecting metallic vitrified danger notice board as per language suggested by engineer incharge for MEDIUM VOLTAGE installation to be erected as per IS-2551.	Ea.	56.00	13.00	69.00
3-13-2.	Providing and erecting metallic vitrified danger notice board as per language suggested by engineer incharge for HIGH VOLTAGE installation to be erected as per IS.-2551.	Ea.	68.00	13.00	81.00
3-13-3	Providing & erecting Medium Voltage Danger Notice Board sticker as per language suggested by engineer incharge of standard size as per IS-2551	Ea	17.00	9.00	26.00
3-13-4	Providing & erecting High Voltage Danger Notice Board sticker as per language suggested by engineer incharge of standard size-as per IS 2551	Ea	26.00	9.00	35.00
SECTION 3-14 EARTHING					
Follow IS code :3043 is the guideline for the earthing					
3-14-1	Providing and erecting required size Aluminium strip for earthing of H.T. , OCB / ACB / Transformer, LT panel board, Motors etc. using copper clamp.	Kg.	206.00	17.00	223.00
3-14-2	Providing and erecting required size HOT deep Galvanised iron strip for earthing of H.T. , OCB/ ACB/ Transformer LT panel board, Motors etc. using proper clamp.	Kg.	60.00	17.00	77.00
3-14-3	Providing and erecting required size Copper strip for earthing of H.T. OCB / ACB/ Transformer, LT panel board, Motors etc. using copper clamp.	Kg.	753.00	34.00	787.00
3-14-4	Providing and erecting Annealed bare Copper wire 8 to 16 SWG.	Kg.	753.00	34.00	787.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-14-5	Providing and erecting HOT deep Galvanised iron strip wire 8 to 16 SWG.	Kg.	60.00	17.00	77.00
3-14-6-A	Providing and erecting Pipe type earthing having 150 cms.long and 2.5 cms. dia. galvanised iron pipe with coupling and buch buried in specially prepared earth pit complete with necessary 8 SWG earth wire.	Ea.	297.00	68.00	365.00
3-14-6-B	Providing and erecting Pipe type earthing with 40 mm dia 2.5 mtr long 'B' grade G.I. pipe with necessary coupling buch buried in specially prepared earth pit & G.I. earth wire of 8 SWG erected & connected as directed (For panel)	Ea.	687.00	128.00	815.00
3-14-6-c	For using salt and charcoal / coke as required for pipe type earthing.	Ea.	153.00	17.00	170.00
3-14-7	Add Extra for excavation in Semi hard rock (Murrum) by dry and wet blasting and chiselling for pipe type earthing	Ea.			
3-14-8	Add Extra for excavation in Hard rock by dry and wet blasting and chiselling for pipe type earthing.	Ea.			
3-14-9	Supplying & erecting earth pit of minimum bore dia.150mm size approved make Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free hot dipped G.I.Pipes having Outer pipe dia of 50mm having 80-200 Micron galvanising, Inner pipe dia of 25 mm having 200-250 Micron galvanising, connection terminal dia of 12mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications with chamber and heavy duty cover. (A)(approved make OEM has to submit test certificate including value of earth resistance of installation duly stamped and signed by agency and officer Incharge has to ensure the value of earthing resistane mentioned in test Certificate) & having back filling compound of (B) Inner chemical (CCM Compound)- Resistivity:- 0.2 ohm / meter testing as per IEC 62561-2017, Voltage drop:- < 1 volt at no load & dry form, Sulphar content:- <2%(C) Back fill Compound :- Earthing compound should be capable to retain moisture for long time Necessary test report must be submitted by Agency.				
	(a) For Electrical Installation up to 440V in normal soil Length of pipe - 1 Mtr Back filling compound - 1 Nos Bag of 15 Kg.	Ea.	4215.00	331.00	4546.00
	(b)For Electrical installation up to 11 KV in normal soil. Length of Pipe : 2.00 mtrs Back filling Compound :1 no. Bag of 25 Kg.	Ea.	5321.00	382.00	5703.00
	(c) For Electrical Installation covering Transformer Neutrals, Lightning arrester Earthing, A.C.Plant & Sensitive Computer System(like Automation, SCADA) i.e independent Earthing in normal soil. Length of Pipe : 3.00 mtrs Back filling Compound :2 nos Bags of 25 Kg.	Ea.	7978.00	573.00	8551.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-14-10	Supplying & erecting in earthpit of minimum bore dia. 225mm size approved make Safe Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free hot dipped G.I.Pipes having Outer pipe dia of 80 mm having 80-200 Micron galvanising, Inner pipe dia of 40 mm having 200-250 Micron galvanising, connection terminal dia of 14 mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications with chamber and heavy duty cover (A)(approved make OEM has to submit test certificate including value of earth resistance of installation duly stamped and signed by agency and officer Incharge has to ensure the value of earthing resistance mentioned in test Certificate) & having back filling compound of (B) Inner chemical (CCM Compound)- Resistivity:- 0.2 ohm / meter testing as per IEC 62561-2017, Voltage drop:- < 1 volt at no load & dry form, Sulphur content:- <2%(C) Back fill Compound :- Earthing compound should be capable to retain moisture for long time Necessary test report must be submitted by Agency.				
	[A] For electrical installation up to 440 V Length of Pipe - 1 Mtr Back filling compound - 1 Nos. of Bag of 15 Kgs.	Ea.	5454.00	331.00	5785.00
	[B] For Electrical installation up to 11 KV located in other than normal soil i.e. Soft Rock, Marshy Soil etc. -Length of Pipe : 2 mtr -Back filling Compound :1 no. Bag of 25 Kg.	Ea.	6643.00	382.00	7025.00
	[C] For Electrical Installation covering Transformer Neutrals, Lightning arrester Earthing, A.C.Plant & Sensitive Computer System(like Automation, SCADA)i.e. independent Earthing located in other than normal soil i.e. Soft Rock, Marshy Soil etc.. -Length of Pipe : 3 Mtrs. -Back filling Compound :2 nos Bags of 25 Kg.	Ea.	9916.00	573.00	10489.00
3-14-11	Providing one bag of 25 Kg. Additional Back Filling Compound (BFC) suitable for safe earthing device.	Ea.	700.00	0.00	700.00
3-14-12	Supplying & erecting funnel type earthing having earth plate of following size buried in specifically prepared earth pit 3 mtr. below ground with 40 kg. charcoal and salt with alternate layers of charcoal & salt, 20mm.dia. G.I. pipe with Funnel with a wire mesh for watering & bricks masonry block, C.I. Cover complete as per para 7.3 of IS 3043 with necessary length of double Galvanised Iron / copper earth wire No 6 SWG bolted with lug to the plate and covered in 12 mm dia. G.I. pipe 2.5 mtr long complete connected to the nearest switch gear with end socket as per direction & duly tested by earth tester confirming to IS (As per drawing) with following specification				
	(A) With 30 x 30 x 0.35 cms: C.I. earth plate	Ea.	1611.00	678.00	2289.00
	(B) With 45 x 45 x 0.35 cms. C.I. earth plate	Ea.	1865.00	678.00	2543.00
	(C) with 60 x 60x 0.315 cms. Copper earth Plate	Ea.	7119.00	678.00	7797.00
3-14-13	ADD Extra for excavation in Semi hard rock (Murrum) by dry and wet blasting and chiselling for funnel type earthing of above	Ea.	9.00	212.00	221.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-14-14	ADD Extra for excavation in Hard rock by dry and wet blasting and chiselling for funnel type earthing of above .	Ea.			
3-14-15	providing and erecting Cast iron earth plate size 30 X 30 X 0.35 cms. buried in specially prepared 2.5 Mtr. deep earth pit complete with necessary G.I. strip in G.I. pipe 2 Mtr. long with coupling and G.I. plug for earthing of switch gear, conduit run or power plug etc.	Ea.	509.00	170.00	679.00
3-14-16	providing and erecting Cast iron earth plate size 45 X 45 X 0.35 cms. buried in specially prepared 2.5 Mtr. Deep earth Pit complete with necessary G.I. strip in G.I. pipe 2 Mtr. long with coupling and G.I. plug for earthing of switch gear, conduit run or power plug etc.	Ea.	678.00	170.00	848.00
SECTION 3-15 ENERGY METERS					
3-15-1	providng and erecting Approved make energy meter 230V, 50 c/s AC up to 20A erected as directed with three year replacement guarantee.				
	Cat. II	Ea.	823.00	68.00	891.00
	Cat. III	Ea.	848.00	68.00	916.00
3-15-2	providng and erecting Approved make single phase electronic energy meter rating 5A/20A/40A based on ASIC (Application Specific integral circuit) digital technology with accuracy Class-I, temper proof, free from effect of external magnetic field with phase, earth, reverse and impulse indications, 6 digit electro-mechanical counter suitable to work on 120 V to 300V, 45 - 55 Hz., housed in robust enclosure complete to be erected as directed with 3 year replacement guarantee.				
	Cat. II	Ea.	1619.00	68.00	1687.00
	Cat. III	Ea.	1653.00	68.00	1721.00
3-15-3	providng and erecting Approved make energy meter 3 phase 4 wire unbalanced load rating, 10A to 60 Amp. based on ASIC(Application specific Integral Circuits) digital technology with accuracy Class - 1 , temper proof, free from effect of external magnetic field with 3 phase indication, earth & impulse indication, 6 digit electro mechanical impulse counter, suitable work on 120 V to 300V per phase 45-55 HZ, housed in robust enclosure with erection as directed.				
	Cat. II	Ea.	2484.00	136.00	2620.00
	Cat. III	Ea.	2534.00	136.00	2670.00
3-15-4	providng and erecting Approved make energy meter 3 phase 4 wire unbalanced load 500 V. 5 to 10A complete erected as directed with necessary earth wire.				
	Cat. II	Ea.	1958.00	136.00	2094.00
	Cat. III	Ea.	2043.00	136.00	2179.00
3-15-5	providng and erecting Approved make energy meter 3 phase 4 wire unbalanced load 500 V. 20A or 30A complete erected as directed with necessary earth wire.				
	Cat. II	Ea.	2153.00	136.00	2289.00
	Cat. III	Ea.	2234.00	136.00	2370.00
3-15-6	providng and erecting Approved make. energy meter 3 phase 4 wire unbalanced load 500 V.50A / 100A complete erected as directed with necessary earth wire.				
	Cat. II	Ea.	2314.00	136.00	2450.00
	Cat. III	Ea.	2450.00	136.00	2586.00
3-15-7	providng and erecting Suitable set of CTS for 100A Energy Meter	Ea.	2034.00	51.00	2085.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 3-16 CUPBOARDS.					
3-16-1	Providing & erecting weather proof, dust & vermin proof, floor mounted front operated indoor type cubical panel board necessary IP-42 and above protection as per approval from engineer incharge made from 14 SWG thick CRC M.S. sheet for outer body & doors, 16 SWG thick CRC M.S.sheet for internal partitions with necessary accessories , supporting angles/ flats channel including cutting, bending, drilling, welding, riveting with internal partitions & cable alley as per requirements & instruction of engineer-in-charge with erection of				
	supplied switch gears, BUSBARS, suitable size of inter connecting PVC copper wire / copper-aluminium strips, rubber grommets, rib, bakelite control fuses/MCB for measuring instruments, earth bus & earth bolts, foundation flange - bolts-base Plates, sufficient nos. of hinged doors, handles with locking arrangement and rubber gasket,heavy duty end terminal connection,danger notice board,necessary ventilation,earthing strip complete. The Panel shall be painted with epoxy powder coating.				
	(The rates excludes the cost of switchgears, bus bars, inter connecting mains & Copper Aluminium strips, meters, Fuses etc. The dimension shall be measured excluding base beams) The panel shall be supplied with following approved manufacturers with following size.				
	(A) locally fabricated panel board				
	(i) with 350 mm depth	Sq.Mtr	9873.00	492.00	10365.00
	(ii) With 550 mm. Depth	Sq.Mtr	12950.00	492.00	13442.00
	(iii) with 750 mm. Depth	Sq.Mtr	21695.00	551.00	22246.00
	(iv) with 1000 mm. depth	Sq.Mtr	26272.00	594.00	26866.00
	(B) The standard companies switch gear shall be used and only manufacturers at CPRI approved factory				
	(i) with 350mm depth	Sq.Mtr	14068.00	687.00	14755.00
	(ii) with 550 mm. Depth	Sq.Mtr	18509.00	687.00	19196.00
	(iii)with 750 mm. Depth	Sq.Mtr	32433.00	797.00	33230.00
	(iv) with 1000 mm. depth	Sq.Mtr	39746.00	848.00	40594.00
	(C) The standard companies switch gear shall be used and only manufacturers as per IEC 61439 for beneficial use.				
	(i) with 350mm depth	Sq.Mtr	15475.00	755.00	16230.00
	(ii) with 550 mm. Depth	Sq.Mtr	20361.00	755.00	21116.00
	(iii)with 750 mm. Depth	Sq.Mtr	35678.00	878.00	36556.00
	(iv) with 1000 mm. depth	Sq.Mtr	43721.00	933.00	44654.00
3-16-2	Providing and erecting Steel cover as per drawing using 16 SWG M.S.sheet of following depth, to house the switch gear etc. complete with locking arrangement and lock with duplicate keys per cupboard and door handles erected with necessary support and painting. [One coat red oxide and two coat enamel paint]				
	(A) with angle iron frame				
	(i) For 25 cms. Depth	Sq.Mtr	3195.00	331.00	3526.00
	(ii) For 40 cms. Depth	Sq.Mtr	3856.00	331.00	4187.00
	(B)Without angle iron frame				
	(i) For 25 cms. Depth	Sq.Mtr	2204.00	331.00	2535.00
	(ii) For 40 cms. depth	Sq.Mtr	2645.00	331.00	2976.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-16-3	Providing and erecting Meter cover made from multi chamber hollow PVC sections of 20 mm thick having all the corner joints with PVC solution angles without using any screws, nails shutters having required size of eye glass and with necessary locking arrangement hinged with box. The back of meter box should be fixed with timber. Hold fast for holding screws or nut bolts.	Sq.Mtr	3094.00	212.00	3306.00
3-16-4-A	Providing , erecting , fabricating the M.S. structure as per requirement on site incorporating proper size of M.S. angles,square,round, flats, bars, channels, sections complete with cutting, welding, grinding & finishing duly painted with one coat of red oxide with erection on site as per direction of engineer in charge with necessary grouting, cementing, plastering & finishing complete.	Kg.	57.00	20.00	77.00
3-16-4-B	Providing and erecting ,Fabricating the box type items made from M.S. Sheet with A.I. supports, wings, doors, handles other hardware materials as per requirement design with finishing by three tank powder coating processed inside and outside painted, erected as directed including minor civil work.	Kg.	145.00	34.00	179.00
3-16-5	Add for specialised type of fabrication work on height by using scaffolding or tower stair or rope as well as for lift machine room & siren works.	Kg.	6.00	20.00	26.00
3-16-6	Painting by cleaning, the surface and applying one coat of primer and two coats of enamel paint for meter cup-board or base plate suitable to match the wall finish	Sq.Mtr	102.00	43.00	145.00
3-16-7	Painting the number and words for inventory Identification on erected fittings / equipment's or Such accessories as may required with good quality of enamelled paint as directed by engineer in charge.				
	(i) up to 20 characters, up to 50 mm height.	Ea.	13.00	9.00	22.00
	(ii) Add. for additional character.	Ea.	2.00	0.00	2.00
	(iii) Add for additional each 25mm. height	Ea.	4.00	2.00	6.00
3-16-8	Supplying and erecting nuwood 12mm thick on existing angle iron frame or wooden patti	Sq.Mtr	314.00	68.00	382.00
3-16-9	Providing & erecting weather proof, dust & vermin proof, floor mounted front operated outdoor type double door cubical panel board necessary IP-54 and above protection as per approval from engineer incharge made from 14 SWG thick CRC M.S. sheet for outer body & doors, 16 SWG thick CRC M.S.sheet for internal partitions with necessary accesories , supporting angles/ flats channel including cutting, bending, drilling, welding, riveting with internal partitions & cable alley as per requirements & instruction of engineer-in-charge with erection of				
	supplied switch gears, BUSBARS, suitable size of inter connecting PVC copper wire / copper-aluminium strips, rubber grommets, rib, bakelite control fuses/MCB for measuring instruments, earth bus & earth bolts, foundation flange - bolts-base Plates, sufficient nos. of hinged doors, handles with locking arrangement and rubber gasket,heavy duty end terminal connection,danger notice board,necessary ventilation,earthing strip complete. The Panel shall be painted with epoxy powder coating.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(The rates excludes the cost of switchgears, bus bars, inter connecting mains & Copper Aluminium strips, meters, Fuses etc. The dimension shall be measured excluding base beams) The panel shall be supplied with following approved manufacturers with following size.				
	(A) locally fabricated panel board				
	(i) with 350 mm depth	Sq.Mtr	10861.00	492.00	11353.00
	(ii) With 550 mm. Depth	Sq.Mtr	14246.00	492.00	14738.00
	(iii) with 750 mm. Depth	Sq.Mtr	23865.00	551.00	24416.00
	(iv) with 1000 mm. depth	Sq.Mtr	28899.00	594.00	29493.00
	(B) The standard companies switch gear shall be used and only manufacturers at CPRI approved factory				
	(i) with 350mm depth	Sq.Mtr	15475.00	687.00	16162.00
	(ii) with 550 mm. Depth	Sq.Mtr	20361.00	687.00	21048.00
	(iii)with 750 mm. Depth	Sq.Mtr	35678.00	797.00	36475.00
	(iv) with 1000 mm. depth	Sq.Mtr	43721.00	848.00	44569.00
	(C) The standard companies switch gear shall be used and only manufacturers at CPRI approved factory as per IEC 61439 for beneficial use.				
	(i) with 350mm depth	Sq.Mtr	17022.00	755.00	17777.00
	(ii) with 550 mm. Depth	Sq.Mtr	22399.00	755.00	23154.00
	(iii)with 750 mm. Depth	Sq.Mtr	39246.00	878.00	40124.00
	(iv) with 1000 mm. depth	Sq.Mtr	48094.00	933.00	49027.00
3.17 / Security Device					
3-17-1	Providing & erecting stand alone Wall mounted PIR motion Sensor with ABS Housing single phase AC operation. Complete with Dual element pyroelectric sensor, Digital Signal Processing Detection Range 12 meters, angle 110 degree, RFI and EMI immunity, Detects motion in it's coverage area. Multipurpose device can be used as security device, an energy saving device, an automatic switch. Complete with infra red sensor, Light & sensitivity Sensor, Timer with Bye pass facility. Suitable for 1000 Watts incandescent load or 750 watts of fluorescent load.	Ea.	4873.00	85.00	4958.00
3-17-2	Providing & erecting stand alone ceiling mount PIR motion Sensor with ABS Housing single phase AC operation. Complete with Dual element pyroelectric sensor, Digital Signal Processing Detection Range 14 feet at 10 feet height, angle 360 degree, RFI and EMI immunity, Detects motion in it's coverage area. Multipurpose device can be used as security device, an energy saving device, an automatic switch. Complete with infra red sensor, Light & sensitivity Sensor, Timer with Bye pass facility. Suitable for 400 watts electrical load	Ea.	4238.00	85.00	4323.00
3-17-3	Providing & erecting stand alone ceiling mount PIR motion Sensor with ABS Housing single phase AC operation. Complete with Dual element pyroelectric sensor, Digital Signal Processing Detection Range 14 feet at 10 feet height, angle 360 degree, RFI and EMI immunity, Detects motion in it's coverage area. Multipurpose device can be used as security device, an energy saving device, an automatic switch. Complete with infra red sensor, Light & sensitivity Sensor, Timer with Bye pass facility. Complete with 20 Amp. relay to Operate on 1.5 tonne window Air Conditioner, In addition to 6 tube lights	Ea.	5085.00	106.00	5191.00
	GSM/GPRS Energy Monitoring System Modem				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
3-17-4.	providing and erecting Retrofittable Wireless RS485 Modbus RTU Modem capable of reading atleast 20 Nos. of RS485 based 1 Φ / 3 Φ Energy Meters. Operating Voltage upto 440 V AC. In-built embedded Watch Dog circuit for anti-jamming feature & self-recovery. Accelerometer to detect tampering. Enclosure with DIN Rail Mount. LCD Display for Network Signal strength indication, parameter display, status & health display, etc. Dedicated IoT communication GSM/GPRS SIM Card (with minimum 5 years of recharge) for Wireless Communication with Remote Energy Monitoring System Web Dashboard. 5 Years Data Hosting & Server Charges to be included with Remote Energy Monitoring System Web Dashboard. All Parameters (such as V, I, kW, kWh, PF, etc.) of Energy meters on web dashboard with notification and alert generation facility. Secured Web communication via 128 Bit AES Encryption. Communication via Secured & light-weight MQTT Protocol. Live Analytics, Event History, Data Logs and comparative Data Analytics & reports.	ea.	13560.00	636.00	14196.00
	Email / SMS Alerts & Notifications. Daily / Weekly / Monthly / Device-wise Reports. Meter Connectivity Reports. Fault detection & management module on web dashboard. With Android & iOS Mobile Application.				
3-17-5.	Providing and erecting multifunctional meter suitable for application of Power monitoring and showing measurement of following Voltage, Frequency, Apparent energy, Apparent power, Active and reactive energy, Active and reactive power, Average voltage Vavg, Peak demand power PM, QM, SM, Demand power P, Q, S, Apparent power S, S1, S2, S3, Unbalance current, Power factor and displacement PF (signed, four quadrant), Calculated neutral current, Active, reactive, apparent energy (signed, four quadrant), Active power P, P1, P2, P3, Voltage U21, U32, U13, V1, V2, V3, Phase currents, Average current lag, Peak demand currents, Reactive power Q, Q1, Q2, Q3, Demand current I1, I2, I3, [Us] rated supply voltage 40...300 V AC 45...65 Hz, 40...300 V DC, Network frequency 50 Hz, Type of network 3P, Display type 7 segments LED, Display colour Red, Messages display capacity 3 fields of 4 characters, Display digits 12 digit(s) - 14.2 mm in height	Ea.	13560.00	424.00	13984.00
3-18-1.	Supplying & erecting approved make Four Pole 415V Motorised Automatic transfer switch including controller with UV/OV, phase sequence, single phasing and frequency protection interior for panel mounting with operating mechanism A.C.23A duty confirming to IS for				
	(A) 63A (Mini ATS) Cat-III	Ea.	4233.00	50.00	4283.00
	(B) 100A Cat-III	Ea.	26720.00	100.00	26820.00
	(C) 125A Cat-III	Ea.	44814.00	111.00	44925.00
	(D) 160A Cat-III	Ea.	49255.00	119.00	49374.00
	(E) 200A Cat-III	Ea.	50670.00	136.00	50806.00
	(F) 250A Cat-III	Ea.	59221.00	136.00	59357.00
	(G) 315A Cat-III	Ea.	61280.00	136.00	61416.00
	(H) 400A Cat-III	Ea.	70899.00	212.00	71111.00
	(I) 630 A. Cat.III	Ea.	83865.00	276.00	84141.00
	(J) 800 A Cat. III	Ea.	107373.00	407.00	107780.00
	(K) 1000 A Cat. III	Ea.	136416.00	407.00	136823.00
	(L) 1250 A Cat. III	Ea.	165195.00	424.00	165619.00
	(M) 1600 A Cat. III	Ea.	199584.00	424.00	200008.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(N) 2000 A Cat. III	Ea.	231618.00	467.00	232085.00

CHEPTER - IV Cables and Wires

SECTION 4-1

UNARMoured ALUMINIUM CABLES

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
4-1-1.	Supplying & erecting XLPE(IS:7098) (I)-88 ISI unarmoured Aluminium cable 1.1 KV.grade to be erected as directed of following size.				
	(A) 2 core 2.5 Sq. mm	Mtr.	26.00	8.00	34.00
	(B) 2 core 4 Sq. mm	Mtr.	45.00	8.00	53.00
	(C) 2 core 6 Sq. mm	Mtr.	60.00	11.00	71.00
	(D) 2 core 10 Sq. mm	Mtr.	73.00	11.00	84.00
4-1-2.	Supplying & erecting XLPE(IS:7098) (I)-88 ISI unarmoured Aluminium cable 1.1 KV.grade to be erected as directed of following size.				
	(A)3 core 2.5 Sq. mm	Mtr.	33.00	8.00	41.00
	(B)3 core 4 Sq. mm	Mtr.	58.00	8.00	66.00
	(C)3 core 6 Sq. mm	Mtr.	69.00	10.00	79.00
	(D)3 core 10 Sq. mm	Mtr.	88.00	10.00	98.00
4-1-3.	Supplying & erecting XLPE(IS:7098) (I)-88 ISI unarmoured Aluminium cable 1.1 KV.grade to be erected as directed of following size.				
	(A)4 core 2.5 Sq. mm	Mtr.	40.00	10.00	50.00
	(B)4 core 4 Sq. mm	Mtr.	65.00	10.00	75.00
	(C)4 core 6 Sq. mm	Mtr.	78.00	11.00	89.00
	(D)4 core 10 Sq. mm	Mtr.	97.00	11.00	108.00
SECTION 4-2 UNARMoured COPPER CABLES.					
4-2-1.	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size.				
	(A) 2 core 2.5 Sq. mm	Mtr.	93.00	7.00	100.00
	(B) 2 core 4 sq.mm	Mtr.	123.00	7.00	130.00
	(C) 2 core 6 Sq. mm	Mtr.	190.00	12.00	202.00
	(D) 2 core 10 Sq. mm	Mtr.	288.00	12.00	300.00
	(E) 3 core 2.5 Sq. mm	Mtr.	129.00	7.00	136.00
	(F) 3 core 4 Sq. mm	Mtr.	175.00	12.00	187.00
	(G) 3 core 6 Sq. mm	Mtr.	278.00	12.00	290.00
	(H) 3 core 10 Sq. mm	Mtr.	421.00	18.00	439.00
	(I) 3 core 16 Sq. mm	Mtr.	534.00	23.00	557.00
	(J) 4 core 2.5 Sq. mm	Mtr.	155.00	12.00	167.00
	(K) 4 core 4 Sq. mm	Mtr.	226.00	12.00	238.00
	(L) 4 core 6 Sq. mm	Mtr.	349.00	12.00	361.00
	(M) 4 core 10 Sq. mm	Mtr.	550.00	18.00	568.00
	(N) 4 core 16 Sq. mm	Mtr.	698.00	23.00	721.00
4-2-2.	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size.				
	(A)7 core 1.5 Sq. mm	Mtr.	101.00	14.00	115.00
	(B)7 core 2.5 Sq. mm	Mtr.	132.00	14.00	146.00
	(C) 7 core 4 sq.mm	Mtr.	462.00	18.00	480.00
	(D) 8 core 2.5 sq.mm	Mtr.	269.00	18.00	287.00
	(E) 12 core 2.5 sq.mm	Mtr.	373.00	20.00	393.00
SECTION 4-3 ARMoured ALUMINIUM CABLES					
4-3-1.	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables.				
	(A) 2 core 4 Sq. mm	Mtr.	65.00	14.00	79.00
	(B) 2 core 6 Sq. mm	Mtr.	78.00	14.00	92.00
	(C) 2 core 10 Sq. mm	Mtr.	111.00	14.00	125.00
4-3-2.	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables.				
	(A) 3 core 2.5 Sq. mm	Mtr.	55.00	14.00	69.00
	(B) 3 core 4 Sq. mm	Mtr.	73.00	14.00	87.00
	(C) 3 core 6 Sq. mm	Mtr.	92.00	14.00	106.00
	(D) 3 core 10 Sq. mm	Mtr.	116.00	14.00	130.00
	(E) 3 core 16 Sq. mm	Mtr.	128.00	14.00	142.00
	(F) 3 core 25 Sq. mm	Mtr.	147.00	14.00	161.00
	(G) 3 core 35 Sq. mm	Mtr.	175.00	14.00	189.00
	(H) 3 core 50 Sq. mm	Mtr.	220.00	14.00	234.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(I) 3 core 70 Sq. mm	Mtr.	298.00	20.00	318.00
	(J) 3 core 95 Sq. mm	Mtr.	392.00	28.00	420.00
	(K) 3 core 120 Sq. mm	Mtr.	468.00	28.00	496.00
4-3-3.	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables				
	(A) 3 1/2 core 25 Sq. mm (16 Sq. mm 1/2 core)	Mtr.	162.00	20.00	182.00
	(B) 3 1/2 core 35 Sq. mm (16 Sq. mm 1/2 core)	Mtr.	198.00	20.00	218.00
	(C) 3 1/2 core 50 Sq. mm (25 Sq.1/2 mm core)	Mtr.	262.00	20.00	282.00
	(D) 3 1/2 core 70 Sq. mm (35 Sq. mm 1/2 core)	Mtr.	347.00	28.00	375.00
	(E) 3 1/2 core 95 Sq. mm (50 Sq. mm 1/2 core)	Mtr.	458.00	28.00	486.00
	(F) 3 1/2 core 120 Sq. mm (70 Sq. mm 1/2 core)	Mtr.	507.00	28.00	535.00
	(G) 3 1/2 core 150 Sq. mm (70 Sq. mm 1/2 core)	Mtr.	692.00	32.00	724.00
	(H) 3 1/2 core 185 Sq. mm (95 Sq. mm 1/2 core)	Mtr.	864.00	32.00	896.00
	(I) 3 1/2 core 240 Sq. mm(120 Sq. mm 1/2 core)	Mtr.	1117.00	40.00	1157.00
	(J) 3 1/2 core 300 Sq.mm (150 Sq. mm 1/2 core)	Mtr.	1354.00	40.00	1394.00
	(K) 3 1/2 core 400 Sq.mm (185 Sq. mm 1/2 core)	Mtr.	1678.00	52.00	1730.00
	(L) 3 1/2 core 500 Sq.mm (240 Sq. mm 1/2 core)	Mtr.	2156.00	52.00	2208.00
	(M) 3 1/2 core 630 sq. mm (300 sq.mm 1/2 core)	Mtr.	2623.00	65.00	2688.00
4-3-4.	Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand / Solid Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables				
	(A) 4 core 4 Sq. mm	Mtr.	102.00	14.00	116.00
	(B) 4 core 6 Sq. mm	Mtr.	111.00	14.00	125.00
	(C) 4 core 10 Sq. mm	Mtr.	125.00	14.00	139.00
4-3-5.	Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables				
	(A) 4 core 16 Sq. mm	Mtr.	138.00	14.00	152.00
	(B) 4 core 25 Sq. mm	Mtr.	175.00	14.00	189.00
	(C) 4 core 35 Sq. mm	Mtr.	239.00	14.00	253.00
SECTION 4-4 ARMoured COPPER CABLES					
4-4-1.	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables				
	(A) 2 core 2.5 Sq. mm	Mtr.	165.00	12.00	177.00
	(B) 2 core 4 Sq. mm	Mtr.	195.00	12.00	207.00
	(C) 2 core 6 Sq. mm	Mtr.	278.00	12.00	290.00
	(D) 2 core 10 Sq. mm	Mtr.	427.00	12.00	439.00
4-4-2.	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable.				
	(A) 3 core 2.5Sq. mm	Mtr.	201.00	12.00	213.00
	(B) 3 core 4 Sq. mm	Mtr.	273.00	12.00	285.00
	(C) 3 core 6 Sq. mm	Mtr.	380.00	12.00	392.00
	(D) 3 core 10 Sq. mm	Mtr.	483.00	12.00	495.00
	(E) 3 core 16 Sq. mm	Mtr.	708.00	12.00	720.00
	(F) 3 core 25 Sq. mm	Mtr.	1221.00	12.00	1233.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
4-4-3.	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cables.				
	(A) 3 1/2 core 25 Sq. mm (10 Sq. mm 1/2 core)	Mtr.	1313.00	23.00	1336.00
	(B) 3 1/2 core 35 Sq. mm (16 Sq. mm 1/2 core)	Mtr.	1826.00	23.00	1849.00
	(C) 3 1/2 core 50 Sq. mm (25 Sq. mm 1/2 core)	Mtr.	2385.00	29.00	2414.00
	(D) 3 1/2 core 70 Sq. mm (35 Sq. mm 1/2 core)	Mtr.	3507.00	34.00	3541.00
	(E) 3 1/2 core 95 Sq. mm (50 Sq. mm 1/2 core)	Mtr.	4482.00	34.00	4516.00
	(F) 3 1/2 core 120 Sq. mm (70 Sq. mm 1/2 core)	Mtr.	6317.00	46.00	6363.00
4-4-4.	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand / Solid Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cables.				
	(A) 4 core 2.5 Sq. mm	Mtr.	257.00	12.00	269.00
	(B) 4 core 4 Sq. mm	Mtr.	349.00	12.00	361.00
	(C) 4 core 6 Sq. mm	Mtr.	493.00	12.00	505.00
4-4-5.	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cables.				
	(A) 4 core 10 Sq. mm	Mtr.	652.00	18.00	670.00
	(B) 4 core 16 Sq. mm	Mtr.	960.00	18.00	978.00
	(C) 4 core 25 Sq. mm	Mtr.	1467.00	23.00	1490.00
	(D) 8 core 2.5 sq.mm	Mtr.	297.00	18.00	315.00
	(G) 12 core 2.5 sq.mm	Mtr.	392.00	23.00	415.00
SECTION 4-5 MISCELLANEOUS.					
4-5-1.	Making trench in soft soil of suitable width of 90 cm deep for laying cable or locating the fault all over the run and back filling the same and making the surface as normal ground.	Mtr.	0.00	55.00	55.00
4-5-2.	Making trench in Hard Murrum / Tar Road of suitable width of 90 cm or required depth for laying any size of cable or locating the fault all over the run and back filling the same and making the surface as normal ground.	Mtr.	0.00	74.00	74.00
	(B) If additional machinery like hammer driller or JCB use [Add]	Mtr.	0.00	354.00	354.00
4-5-3.	Covering of cable with second class bricks or cement tiles laid cover the cable crosswise & also on both sides with covering of 7. 5 Cm. layer of sand above & below cable (16 bricks per meter)	Mtr.	102.00	37.00	139.00
4-5-4.	Drilling the road without breaking the road surface (Asphalt) for laying of cable for feeding power supply by making up to following size of holes at both ends complete.				
	(A) Up to 100 mm bore dia	Mtr.	0.00	488.00	488.00
	(B) Up to 150 mm bore dia	Mtr.	0.00	610.00	610.00
4-5-5.	Providing and erecting iron clad cable route marker duly marked with ELE.CABLE of size 23 cm.X 12 cm. Flushed with ground in cement foundation as directed by Engineer in charge.	Ea.	212.00	26.00	238.00
4-5-6.	Supplying following size of Light duty "A" Class G.I . Pipe & erecting as directed by Engineer-in-charge.				
	(A) 25 mm dia	Mtr.	149.00	22.00	171.00
	(B) 50 mm dia	Mtr.	276.00	22.00	298.00
	(C) 80 mm dia.	Mtr.	445.00	22.00	467.00
	(D) 100 mm dia.	Mtr.	668.00	22.00	690.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
4-5-7.	Providing & laying. R.C.C. Hume pipe for cable to be laid 90 cm. below ground across the road crossing or on floor with necessary material in an approved manner and making the ground as per original.				
	(A) 450 mm dia	Mtr.	414.00	38.00	452.00
	(B) 400 mm dia	Mtr.	356.00	38.00	394.00
	(C) 300 mm dia	Mtr.	302.00	38.00	340.00
	(D) 250 mm dia	Mtr.	255.00	38.00	293.00
	(E) 150 mm dia	Mtr.	223.00	38.00	261.00
	(F) 100 mm dia.	Mtr.	186.00	38.00	224.00
4-5-8.	Providing & laying approved make Double walled corrugated pipes (DWC) of polyethylene(conforming to IS 14930 II)with necessary connecting accessories of same material at required depth in existing trench for laying of cable. below ground / road surface for enclosing cable				
	(A) 50 mm outer dia	Mtr.	53.00	9.00	62.00
	(B) 63 mm outer dia	Mtr.	64.00	9.00	73.00
	(C) 90 mm outer dia	Mtr.	86.00	9.00	95.00
	(D) 120 mm outer dia.	Mtr.	127.00	9.00	136.00
	Providing & laying approved make ISI marked HDPE 6Kg / cm ² (Class-3) as per IS:4984:1995 PE-80 to be erected at road crossing on or floor as directed for laying of cable. The pipes as following size of dia & weight per 6 mtr.				
	(A) 40 mm inner Dia.		98.00	9.00	107.00
	(B) 50 mm inner Dia.		153.00	9.00	162.00
	(C) 63 mm inner Dia.		238.00	9.00	247.00
	(D) 75 mm inner Dia.		339.00	9.00	348.00
	(E) 90 mm inner Dia		478.00	9.00	487.00
	(F) 110 mm inner Dia.		716.00	9.00	725.00
4-5-9.	Providing & laying approved make ISI marked Rigid PVC pipe having 6Kg / cm ² (Class-3) to be erected at road crossing on or floor as directed for laying of cable. The pipes as following size of dia & weight per 6 mtr.				
	(A) 40 mm inner Dia. (1.68 Kg / 6 RMT)	Mtr.	39.00	13.00	52.00
	(B) 50 mm inner Dia. (2.5Kg/6RMT)	Mtr.	56.00	13.00	69.00
	(C) 63 mm inner Dia. (4 Kg / 6RMT)	Mtr.	94.00	13.00	107.00
	(D) 75 mm inner Dia. (5.5 Kg/6RMT)	Mtr.	111.00	13.00	124.00
	(E) 90 mm inner Dia (8.0 Kg / 6RMT)	Mtr.	157.00	13.00	170.00
	(F) 110 mm inner Dia. (11.63 Kg/6 RMT)	Mtr.	221.00	13.00	234.00
4-5-10	Locating Underground Cable Fault of Underground Cable including digging, pin pointing with cable route tracker bu using cable fault location equipment like cable fault Van/Vehicle with supportive meters and accessories & doing high pressure testing of cable for checking healthiness of cable with suitable equipment after jointing of the faulty cable (excluding jointing kit) with report of showing distance from main source approx.				
	(a) LT Cable 35 sq.mm and above	JOB	6780.00	0.00	6780.00
	(b) HT Cable	JOB	7628.00	0.00	7628.00
SECTION 4-6 CABLE GLANDS.					
4-6-1.	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.				
	(A) 2 to 4 core 2.5 / 4 Sq. mm	Ea.	22.00	11.00	33.00
	(B) 2 to 4 core 6 Sq. mm	Ea.	27.00	11.00	38.00
	(C) 2 to 4 core 10 Sq. mm	Ea.	27.00	11.00	38.00
	(D) 2 to 4 core 16 Sq. mm	Ea.	36.00	11.00	47.00
	(E) 2 to 4 core 25 Sq. mm	Ea.	40.00	11.00	51.00
4-6-2.	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(A) 3 core 35/50 Sq. mm	Ea.	55.00	11.00	66.00
	(B) 3 core 70 Sq. mm	Ea.	78.00	11.00	89.00
	(C) 3 core 95 Sq. mm	Ea.	114.00	20.00	134.00
	(D) 3 core 120 Sq. mm	Ea.	133.00	20.00	153.00
	(E) 3 core 150 Sq. mm	Ea.	151.00	20.00	171.00
	(F) 3 core 185 Sq. mm	Ea.	183.00	34.00	217.00
4-6-3.	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.				
	(A) 3 & 1/2 / 4 core 25 Sq. mm	Ea.	55.00	11.00	66.00
	(B) 3 & 1/2 core 35/50 Sq. mm	Ea.	64.00	11.00	75.00
	(C) 3 & 1/2 core 70 Sq. mm	Ea.	87.00	15.00	102.00
	(D) 3 & 1/2 core 95 Sq. mm	Ea.	110.00	20.00	130.00
	(E) 3 & 1/2 core 120 Sq. mm	Ea.	119.00	20.00	139.00
	(F) 3 & 1/2 core 150 Sq. mm	Ea.	159.00	30.00	189.00
	(G) 3 & 1/2 core 185 Sq. mm	Ea.	206.00	30.00	236.00
	(H) 3 & 1/2 core 240 Sq. mm	Ea.	215.00	30.00	245.00
	(I) 3 & 1/2 core 300 Sq. mm	Ea.	239.00	39.00	278.00
	(J) 3 & 1/2 core 400 Sq. mm	Ea.	327.00	39.00	366.00
	(K) 3 & 1/2 core 500 Sq. mm	Ea.	411.00	51.00	462.00
SECTION 4-7 CABLE LUGS.					
4-7-1.	Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner.				
	(A) 1.5/ 2.5/4/6 Sq.mm	Ea.	5.00	1.00	6.00
	(B) 10 Sq.mm	Ea.	11.00	2.00	13.00
	(C) 16/25 Sq.mm.	Ea.	12.00	3.00	15.00
	(D) 35/50 Sq.mm.	Ea.	17.00	3.00	20.00
	(E) 70 Sq.mm.	Ea.	19.00	6.00	25.00
	(F) 95 Sq.mm.	Ea.	29.00	11.00	40.00
	(G) 120 Sq.mm.	Ea.	34.00	11.00	45.00
	(H) 150 Sq.mm.	Ea.	50.00	11.00	61.00
	(I) 185 Sq.mm.	Ea.	65.00	15.00	80.00
	(J) 240 Sq.mm.	Ea.	70.00	15.00	85.00
	(K) 300 Sq.mm.	Ea.	78.00	20.00	98.00
	(L) 400 Sq.mm.	Ea.	89.00	20.00	109.00
	(M) 500 Sq.mm.	Ea.	124.00	20.00	144.00
4-7-2.	Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner.				
	(A) 1.5/2.5 to 6 Sq.mm	Ea.	7.00	1.00	8.00
	(B) 10 Sq.mm	Ea.	8.00	2.00	10.00
	(C) 16 Sq.mm.	Ea.	9.00	3.00	12.00
	(D) 25 Sq.mm.	Ea.	12.00	3.00	15.00
	(E) 35/50 Sq.mm.	Ea.	16.00	6.00	22.00
	(F) 70 Sq.mm.	Ea.	21.00	6.00	27.00
	(G) 95 Sq.mm.	Ea.	36.00	11.00	47.00
	(H) 120 Sq.mm.	Ea.	45.00	11.00	56.00
	(I) 150 Sq.mm.	Ea.	83.00	11.00	94.00
	(J) 185 Sq.mm.	Ea.	106.00	15.00	121.00
	(K) 240 Sq.mm.	Ea.	120.00	15.00	135.00
SECTION 4-8 CABLE END TERMINATION BOXES.					
4-8-1.	Providing and erecting 18 G. M.S. Cable end termination box, indoor type suitable for switch complete erected with clamp, bolt, nut etc.. of following size of TPN.				
	(A) Suitable for 63/100 Amp. TPN	Ea.	382.00	68.00	450.00
	(B) Suitable for 200 Amp. TPN	Ea.	556.00	106.00	662.00
	(C) Suitable for 250/300 Amp. TPN	Ea.	636.00	111.00	747.00
	(D) Suitable for 400 Amp. TPN	Ea.	958.00	128.00	1086.00
	(E) Suitable for 600 Amp. TPN	Ea.	1441.00	128.00	1569.00
	(F) Suitable for 800 Amp. TPN	Ea.	1475.00	128.00	1603.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
4-8-2.	Providing and erecting 18 G. M.S. termination box outdoor type suitable for- 1.1 KV PVC insulated armoured cable complete erected with clamp, bolts, nuts etc. suitable of following size of cables.				
	(A) 3 core 70 / 95 Sq. mm	Ea.	534.00	136.00	670.00
	(B) 3 core 120 / 150 / 185 Sq. mm	Ea.	763.00	136.00	899.00
	(C) 3 core 240 / 300 Sq. mm	Ea.	1272.00	145.00	1417.00
	(D) 3 core 400 / 500 Sq. mm	Ea.	1619.00	145.00	1764.00
4-8-3.	Providing and erecting Epoxy Outdoor / Indoor end termination Kit suitable for LT PVC insulated armoured cable 1.1 KV grade complete with ferrule bushing and accessories and suitable clamps duly erected and connected to the supply for all cores cables of following size.				
	(A) 2.5 to 16 Sq. mm	Ea.	280.00	98.00	378.00
	(B) 25 to 50 Sq. mm	Ea.	314.00	98.00	412.00
	(C) 70 to 120 Sq. mm	Ea.	384.00	147.00	531.00
	(D) 150 / 185 Sq. mm	Ea.	573.00	195.00	768.00
	(E) 240 / 300 Sq. mm	Ea.	701.00	245.00	946.00
	(F) 400 / 500 Sq. mm	Ea.	875.00	245.00	1120.00
SECTION 4-9 CABLE JOINTS					
4-9-1.	Disconnecting the cable connection and Providing straight joint with PVC mould using heat shrink /cast resin type epoxy compound Insulating material and making the joint complete using necessary in line connectors, hardener, earth continuity connection, spacers etc. and reconnecting the same & ensure the joint resistance within the limits as per IS.				
	(A) up to 25 Sq mm Cable	Ea.	780.00	293.00	1073.00
	(B) 35 to 95 Sq. mm cable.	Ea.	1145.00	390.00	1535.00
	(C) 120 to 300 Sq. mm cable.	Ea.	2043.00	585.00	2628.00
4-9-2.	Disconnecting the cable connection and Providing T joint with PVC mould using heat shrink /cast resin type epoxy compound Insulating material and making the joint complete using necessary in line connectors, hardener, earth continuity connection, spacers etc. and reconnecting the same & ensure the joint resistance within the limits as per IS.				
	(A) up to 25 Sq mm Cable	Ea.	1051.00	339.00	1390.00
	(B) 35 to 95 Sq. mm cable.	Ea.	1441.00	441.00	1882.00
	(C) 120 to 300 Sq. mm cable.	Ea.	2221.00	780.00	3001.00
4-10 GRP / FRP CABLE TRAYS					
4-10-1	Supplying and erecting approved make GRP / FRP Ladder type Cable Tray Material – Corrosion Resistant Polyester Flame Retardant U.V. Stabilized Resin System - Manufactured from Pultruded Sections - Polyester Resin System, Glass Content : 55 – 60 % - Thickness- Rung Sq. Hollow Tube 25mm x 25mm - Fixing of Rung to Side Rail with Thermoplastic Pin & Epoxy Adhesive, Assembly Single Stroke 3 Mtr. Length- Rung Spacing – 300mm - Length of Tray: 3000mm- Support Span – 2500mm, Deflection L/200 or < 10mm whichever is less - Specification Followed NEMA FG1 1993- UV Resistant - Flame Retardant – IS 6746 - Appendix K/UL 94, Very Low Flammability - Oxygen Index – Minimum 30% as per ASTM D 2863 Flame Spread (Extent of Burning) – 20mm as per Standard ASTM D 635 - Tensile Strength – 4000 – 8000 Kg/Cm2 as per Standard	Mtr	467.00	26.00	493.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	ASTM D 638 - Flexural Strength – 2500 – 10000 Kg/Cm2 as per Standard ASTM D 790- Izod Impact Strength – 130 Kg/Cm2 as per Standard ASTM D 256- Compressive Strength – 2500 – 5000 Kg/Cm2 as per Standard ASTM D 695- Barcol Hardness – 50 – 65				
	(A) Width 150 mm, Side Member "C" Section : 75 x 25 x 25mm with 4mm Thickness, Loading 30Kg./Mtr. With Concentrated Load 70Kg. at center of the span	Rmt.	467.00	26.00	493.00
	(B) Width 300 mm, Side Member "C" Section : 100 x 35 x 35mm with 4mm Thickness, Loading 60Kg./Mtr. With Concentrated Load 70Kg. at center of the span	Rmt.	602.00	34.00	636.00
	(C) Width 450 mm, Side Member "C" Section : 100 x 35 x 35mm with 4mm Thickness, Loading 75Kg./Mtr. With Concentrated Load 70Kg. at center of the span	Rmt.	687.00	34.00	721.00
	(D) Width 600 mm, Side Member "C" Section : 100 x 35 x 35mm with 4mm Thickness, Loading 90Kg./Mtr. With Concentrated Load 70Kg. at center of the span	Rmt.	738.00	43.00	781.00
	(E) Width 750 mm, Side Member "C" Section : 100 x 35 x 35mm with 4mm Thickness, Loading 120Kg./Mtr. With Concentrated Load 70Kg. at center of the span	Rmt.	806.00	43.00	849.00
4-10-2	Supplying and erecting approved make GRP / FRP Perforated type Cable Tray Material – Corrosion Resistant Polyester Flame Retardant U.V. Stabilized Resin System - Manufactured from Pultruded Sections- Polyester Resin System, Glass Content : 55 – 60 % - - Standard Length : 3000mm- Support Span – 1500mm, Deflection L/200 - Specification NEMA FG1 1993- UV Resistant - Flame Retardant – IS 6746 - Appendix K/UL 94, Very Low Flammability - Specification Followed NEMA FG1 1993 Oxygen Index – Minimum 30% as per ASTM D 2863 - Flame Spread (Extent of Burning) – 20mm as per Standard ASTM D 635 - Tensile Strength – 4000 – 8000 Kg/Cm2 as per Standard ASTM D 638 - Flexural Strength – 2500 – 10000 Kg/Cm2 as per Standard				
	ASTM D 790- Izod Impact Strength – 130 Kg/Cm2 as per Standard ASTM D 256- Compressive Strength – 2500 – 5000 Kg/Cm2 as per Standard ASTM D 695- Barcol Hardness – 50 – 65				
	(A) Width - 50mm, Pultruded "C" Channel with 30mm Sides 2.5mm Thickness, Loading 5 Kg./Mtr.	Rmt.	102.00	9.00	111.00
	(B) Width - 75mm, Pultruded "C" Channel with 25mm Sides 3 mm Thickness, Loading 7 Kg./Mtr.	Rmt.	136.00	9.00	145.00
	(C) Width - 100mm, Pultruded "C" Channel with 35mm Sides 3mm Thickness, Loading 12 Kg./Mtr.	Rmt.	170.00	9.00	179.00
	(D) Width - 150mm, Pultruded "C" Channel with 30mm Sides 3mm Thickness, Loading 15 Kg./Mtr.	Rmt.	221.00	9.00	230.00
	(E) Width - 200mm, Pultruded "C" Channel with 40mm Sides 4mm Thickness, Loading 25 Kg./Mtr.	Rmt.	399.00	17.00	416.00
	(F) Width - 300mm, Pultruded "C" Channel with 50mm Sides 4mm Thickness, Loading 30 Kg./Mtr.	Rmt.	509.00	17.00	526.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
4-10-3	GRP / FRP Cable Trays Accessories - Manufactured from Pultruded Sections - Joining GRP / FRP Straight Coupler Plates Size: 200 x 25 x 4mm Th. with 4 sets of SS304 Hardware size: M6 X 25 for Perforated Type Tray	Ea.	39.00	5.00	44.00
4-10-4	GRP / FRP Cable Trays Accessories - Manufactured from Pultruded Sections - Joining GRP / FRP Straight Coupler Plates Size: 200 x 70 x 4mm Th. with 8 sets of SS304 Hardware size: M6 X 25 for Ladder Type Tray	Ea.	73.00	5.00	78.00
4-10-5	Supplying and erecting of Glass / Fibber Filled Moulded Single Core Cable Cleats with MS Zinc Passivated hardware having following specifications :• The material used in Single clamp is Thermoplastic, U.V Stabilized system & Glass / Fibbers as reinforcement. Glass Content 15 – 30%.• It should be connected with MS Zinc passivated hardware of size M10 for clamping.• It should generally be made as per BS EN 50368/2003 specification for cable cleat for Electrical Installation.• The tensile strength of the material at yield is 800 – 1200 Kg/ cm ² .• The Flexural strength of the material at yield is 1000 – 1600 Kg/ cm ² .• The Izod Impact strength of the material at yield is 50 – 60 J/M.				
	[A] Overall Dia of cable in mm: Min 42 to Max 46 mm Hole centre of Mounting Distance : 65 mm ± 3 mm	Ea.	149.00	5.00	154.00
	[B] Overall Dia of cable in mm: Min 52 to Max 56 mm Hole centre of Mounting Distance : 76mm ± 5 mm	Ea.	191.00	5.00	196.00
	[C] Overall Dia of cable in mm: Min 64 to Max 70 mm Hole centre of Mounting Distance :110mm ± 5 mm	Ea.	234.00	5.00	239.00
	[D] Overall Dia of cable in mm: Min 85 to Max 105 mm Hole centre of Mounting Distance :130mm ± 10mm	Ea.	327.00	5.00	332.00
SECTION 4-11 METAL PERFORATED CABLE TRAYS					
4-11-1	Providing and fixing approved make Perforated C type cable tray. Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge..				
	(1) 50 X 50 X 1.6 mm Thick	Rmt.	272.00	30.00	302.00
	(2) 100 X 50 X 1.6 mm Thick	Rmt.	327.00	30.00	357.00
	(3) 150 X 50 X 1.6 mm Thick	Rmt.	386.00	34.00	420.00
	(4) 200 X 50 X 1.6 mm Thick	Rmt.	458.00	34.00	492.00
	(5) 300 X 50 X 2.0 mm Thick	Rmt.	577.00	39.00	616.00
	(6) 450 X 50 X 2.0 mm Thick	Rmt.	755.00	39.00	794.00
	(7) 600 X 50 X 2.0 mm Thick	Rmt.	950.00	47.00	997.00
	(8) 750 X 50 X 2.0 mm Thick	Rmt.	1128.00	56.00	1184.00
4-11-2	Providing and fixing approved make 'T' Junction for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(1) 50 X 50 X 1.6 mm Thick	Ea.	132.00	13.00	145.00
	(2) 100 X 50 X 1.6 mm Thick	Ea.	145.00	13.00	158.00
	(3) 150 X 50 X 1.6 mm Thick	Ea.	166.00	17.00	183.00
	(4) 200 X 50 X 1.6 mm Thick	Ea.	195.00	17.00	212.00
	(5) 300 X 50 X 2.0 mm Thick	Ea.	267.00	22.00	289.00
	(6) 450 X 50 X 2.0 mm Thick	Ea.	522.00	22.00	544.00
	(7) 600 X 50 X 2.0 mm Thick	Ea.	789.00	26.00	815.00
	(8) 750 X 50 X 2.0 mm Thick	Ea.	1068.00	34.00	1102.00
4-11-3	Providing and fixing approved make '90° Elbow' for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..				
	(1) 50 X 50 X 1.6 mm Thick 90° Elbow	Ea.	85.00	13.00	98.00
	(2) 100 X 50 X 1.6 mm Thick 90° Elbow	Ea.	102.00	13.00	115.00
	(3) 150 X 50 X 1.6 mm Thick 90° Elbow	Ea.	145.00	17.00	162.00
	(4) 200 X 50 X 1.6 mm Thick 90° Elbow	Ea.	153.00	17.00	170.00
	(5) 300 X 50 X 2.0 mm Thick 90° Elbow	Ea.	221.00	22.00	243.00
	(6) 450 X 50 X 2.0 mm Thick 90° Elbow	Ea.	420.00	22.00	442.00
	(7) 600 X 50 X 2.0 mm Thick 90° Elbow	Ea.	662.00	26.00	688.00
	(8) 750 X 50 X 2.0 mm Thick 90° Elbow	Ea.	907.00	34.00	941.00
4-11-4.	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..				
	(1) 50 X 50 X 1.6 mm Thick Cross Junction	Ea.	178.00	13.00	191.00
	(2) 100 X 50 X 1.6 mm Thick Cross Junction	Ea.	200.00	13.00	213.00
	(3) 150 X 50 X 1.6 mm Thick Cross Junction	Ea.	225.00	17.00	242.00
	(4) 200 X 50 X 1.6 mm Thick Cross Junction	Ea.	263.00	17.00	280.00
	(5) 300 X 50 X 2.0mm Thick Cross Junction	Ea.	348.00	22.00	370.00
	(6) 450 X 50 X 2.0 mm Thick Cross Junction	Ea.	645.00	22.00	667.00
	(7) 600 X 50 X 2.0 mm Thick Cross Junction	Ea.	950.00	26.00	976.00
	(8) 750 X 50 X 2.0 mm Thick Cross Junction	Ea.	1077.00	34.00	1111.00
4-11-5	Providing and fixing approved make Perforated C type cable tray. Made from pre- galvanized sheet steel. The cable tray should be bended as per IS 2062/1079 . with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..				
	(1) 50 X 50 X 1.5 mm Thick	Rmt	204.00	26.00	230.00
	(2) 100 X 50 X 1.5 mm Thick	Rmt	246.00	26.00	272.00
	(3) 150 X 50 X 1.5 mm Thick	Rmt	289.00	30.00	319.00
	(4) 200 X 50 X 1.5 mm Thick	Rmt	348.00	30.00	378.00
	(5) 300 X 50 X 1.5 mm Thick	Rmt	433.00	34.00	467.00
	(6) 450 X 50 X 1.5 mm Thick	Rmt	568.00	34.00	602.00
	(7) 600 X 50 X 1.5 mm Thick	Rmt	717.00	43.00	760.00
	(8) 750 X 50 X 1.5 mm Thick	Rmt	848.00	51.00	899.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
4-11-6	Providing and fixing approved make 'T' Junction for Perforated C type cable tray. Made from pre galvanized sheet steel. The Junction should be bended as per IS 2062/1079. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..				
A	T' Junction				
	(1) 50 X 50 X 1.6 mm Thick ' T' Junction	Ea.	102.00	13.00	115.00
	(2) 100 X 50 X 1.6 mm Thick ' T' Junction	Ea.	123.00	13.00	136.00
	(3) 150 X 50 X 1.6 mm Thick ' T' Junction	Ea.	149.00	17.00	166.00
	(4) 200 X 50 X 1.6 mm Thick ' T' Junction	Ea.	166.00	17.00	183.00
	(5) 300 X 50 X 2.0 mm Thick ' T' Junction	Ea.	225.00	22.00	247.00
	(6) 450 X 50 X 2.0 mm Thick ' T' Junction	Ea.	433.00	22.00	455.00
	(7) 600 X 50 X 2.0 mm Thick ' T' Junction	Ea.	653.00	26.00	679.00
	(8) 750 X 50 X 2.0 mm Thick ' T' Junction	Ea.	882.00	34.00	916.00
4-11-7	Providing and fixing approved make '90° Elbow' for Perforated C type cable tray. Made from pre galvanized sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..				
B	90° Elbow				
	(1) 50 X 50 X 1.6 mm Thick 90° Elbow	Ea.	81.00	13.00	94.00
	(2) 100 X 50 X 1.6 mm Thick 90° Elbow	Ea.	94.00	13.00	107.00
	(3) 150 X 50 X 1.6 mm Thick 90° Elbow	Ea.	128.00	17.00	145.00
	(4) 200 X 50 X 1.6 mm Thick 90° Elbow	Ea.	136.00	17.00	153.00
	(5) 300 X 50 X 2.0 mm Thick 90° Elbow	Ea.	195.00	22.00	217.00
	(6) 450 X 50 X 2.0 mm Thick 90° Elbow	Ea.	378.00	22.00	400.00
	(7) 600 X 50 X 2.0 mm Thick 90° Elbow	Ea.	585.00	26.00	611.00
	(8) 750 X 50 X 2.0 mm Thick 90° Elbow	Ea.	806.00	34.00	840.00
4-11-8	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray. Made from pre galvanized sheet steel. The Junction should be bended as per IS 2062/1079 with max 17.5% perforation and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..				
C	Cross Junction				
	(1) 50 X 50 X 1.6 mm Thick Cross Junction	Ea.	149.00	13.00	162.00
	(2) 100 X 50 X 1.6 mm Thick Cross Junction	Ea.	166.00	13.00	179.00
	(3) 150 X 50 X 1.6 mm Thick Cross Junction	Ea.	191.00	17.00	208.00
	(4) 200 X 50 X 1.6 mm Thick Cross Junction	Ea.	212.00	17.00	229.00
	(5) 300 X 50 X 2.0 mm Thick Cross Junction	Ea.	284.00	22.00	306.00
	(6) 450 X 50 X 2.0 mm Thick Cross Junction	Ea.	530.00	22.00	552.00
	(7) 600 X 50 X 2.0 mm Thick Cross Junction	Ea.	780.00	26.00	806.00
	(8) 750 X 50 X 2.0 mm Thick Cross Junction	Ea.	890.00	34.00	924.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
4-11-9	Providing and fixing approved make Ladder type cable tray. Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..				
	(1) 150 X 50 X 1.6 mm Thick	Mtr.	246.00	30.00	276.00
	(2) 200 X 50 X 1.6 mm Thick	Mtr.	255.00	30.00	285.00
	(3) 300 X 50 X 2.0 mm Thick	Mtr.	272.00	34.00	306.00
	(4) 400 X 50 X 2.0 mm Thick	Mtr.	301.00	34.00	335.00
	(5) 500 X 50 X 2.0 mm Thick	Mtr.	403.00	39.00	442.00
	(6) 600 X 50 X 2.0 mm Thick	Mtr.	424.00	43.00	467.00
	(7) 700 X 50 X 2.0 mm Thick	Mtr.	467.00	47.00	514.00
	(8) 150 X 100 X 1.6 mm Thick	Mtr.	488.00	30.00	518.00
	(9) 200 X 100 X 1.6 mm Thick	Mtr.	500.00	30.00	530.00
	(10) 300 X 100 X 2.0 mm Thick	Mtr.	517.00	34.00	551.00
	(11) 400 X 100 X 2.0 mm Thick	Mtr.	585.00	34.00	619.00
	(12) 500 X 100 X 2.0 mm Thick	Mtr.	619.00	39.00	658.00
	(13) 600 X 100 X 2.0 mm Thick	Mtr.	645.00	43.00	688.00
	(14) 700 X 100 X 2.0 mm Thick	Mtr.	691.00	47.00	738.00
	(15) 800 X 100 X 2.0 mm Thick	Mtr.	738.00	56.00	794.00
	(16) 900 X 100 X 2.0 mm Thick	Mtr.	806.00	60.00	866.00
4-11-10	Providing and fixing approved make 'T' Junction for ladder type cable tray. Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..				
A	T' Junction				
	(1) 150 X 50 X 1.6 mm Thick 'T' Junction	Ea.	191.00	13.00	204.00
	(2) 200 X 50 X 1.6 mm Thick 'T' Junction	Ea.	208.00	17.00	225.00
	(3) 300 X 50 X 2.0 mm Thick 'T' Junction	Ea.	246.00	17.00	263.00
	(4) 400 X 50 X 2.0 mm Thick 'T' Junction	Ea.	284.00	22.00	306.00
	(5) 500 X 50 X 2.0 mm Thick 'T' Junction	Ea.	365.00	22.00	387.00
	(6) 600 X 50 X 2.0 mm Thick 'T' Junction	Ea.	441.00	26.00	467.00
	(7) 700 X 50 X 2.0 mm Thick 'T' Junction	Ea.	505.00	34.00	539.00
	(8) 150 X 100 X 1.5 mm Thick 'T' Junction	Ea.	602.00	17.00	619.00
	(9) 200 X 100 X 1.5 mm Thick 'T' Junction	Ea.	636.00	17.00	653.00
	(10) 300 X 100 X 2.0 mm Thick 'T' Junction	Ea.	678.00	22.00	700.00
	(11) 400 X 100 X 2.0 mm Thick 'T' Junction	Ea.	831.00	22.00	853.00
	(12) 500 X 100 X 2.0 mm Thick 'T' Junction	Ea.	941.00	26.00	967.00
	(13) 600 X 100 X 2.0 mm Thick 'T' Junction	Ea.	1043.00	34.00	1077.00
	(14) 700 X 100 X 2.0 mm Thick 'T' Junction	Ea.	1145.00	39.00	1184.00
	(15) 800 X 100 X 2.0 mm Thick 'T' Junction	Ea.	1280.00	43.00	1323.00
	(16) 900 X 100 X 2.0 mm Thick 'T' Junction	Ea.	1399.00	43.00	1442.00
4-11-11.	Providing and fixing approved make '90° Elbow' for ladder type cable tray. Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..				
	(1) 150 X 50 X 1.6 mm Thick	Ea.	153.00	13.00	166.00
	(2) 200 X 50 X 1.6 mm Thick	Ea.	170.00	17.00	187.00
	(3) 300 X 50 X 2.0 mm Thick	Ea.	208.00	17.00	225.00
	(4) 400 X 50 X 2.0 mm Thick	Ea.	246.00	22.00	268.00
	(5) 500 X 50 X 2.0 mm Thick	Ea.	382.00	22.00	404.00
	(6) 600 X 50 X 2.0 mm Thick	Ea.	433.00	26.00	459.00
	(7) 700 X 50 X 2.0 mm Thick	Ea.	568.00	34.00	602.00
	(8) 150 X 100 X 1.6 mm Thick	Ea.	420.00	17.00	437.00
	(9) 200 X 100 X 1.6 mm Thick	Ea.	450.00	17.00	467.00
	(10) 300 X 100 X 2.0 mm Thick	Ea.	509.00	22.00	531.00
	(11) 400 X 100 X 2.0 mm Thick	Ea.	611.00	22.00	633.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(12) 500 X 100 X 2.0 mm Thick	Ea.	695.00	26.00	721.00
	(13) 600 X 100 X 2.0 mm Thick	Ea.	772.00	34.00	806.00
	(14) 700 X 100 X 2.0 mm Thick	Ea.	839.00	39.00	878.00
	(15) 800 X 100 X 2.0 mm Thick	Ea.	933.00	43.00	976.00
	(16) 900 X 100 X 2.0 mm Thick]	Ea.	1009.00	43.00	1052.00
4-11-12	Providing and fixing approved make 'Cross over Junction' for ladder type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..				
	(1) 150 X 50 X 1.6 mm Thick	Ea.	284.00	13.00	297.00
	(2) 200 X 50 X 1.6 mm Thick	Ea.	297.00	17.00	314.00
	(3) 300 X 50 X 2.0 mm Thick	Ea.	339.00	17.00	356.00
	(4) 400 X 50 X 2.0 mm Thick	Ea.	378.00	22.00	400.00
	(5) 500 X 50 X 2.0 mm Thick	Ea.	564.00	22.00	586.00
	(6) 600 X 50 X 2.0 mm Thick	Ea.	399.00	26.00	425.00
	(7) 700 X 50 X 2.0 mm Thick	Ea.	691.00	34.00	725.00
	(8) 150 X 100 X 1.6 mm Thick	Ea.	712.00	17.00	729.00
	(9) 200 X 100 X 1.6 mm Thick	Ea.	742.00	17.00	759.00
	(10) 300 X 100 X 2.0 mm Thick	Ea.	801.00	22.00	823.00
	(11) 400 X 100 X 2.0 mm Thick	Ea.	941.00	22.00	963.00
	(12) 500 X 100 X 2.0 mm Thick	Ea.	1043.00	26.00	1069.00
	(13) 600 X 100 X 2.0 mm Thick	Ea.	1140.00	34.00	1174.00
	(14) 700 X 100 X 2.0 mm Thick	Ea.	1246.00	39.00	1285.00
	(15) 800 X 100 X 2.0 mm Thick	Ea.	1373.00	43.00	1416.00
	(16) 900 X 100 X 2.0 mm Thick]	Ea.	1492.00	43.00	1535.00

CHAPTER - V Fans and Accessories
SECTION 5-1 / CEILING FANS AND ACCESSORIES

Item No	Description	Unit	GST Material	Cost of Materials	Cost of Labour	Total
5-1-1.	Providing and erecting Approved make Ceiling fan with double ball bearing ISI mark with condenser A.C. 230V.50 c/s.1200 mm. sweep complete, canopy erected on existing hook or clamp with earthing. [Make shall be approved by Engineer in charge]	Ea.	18.00	1530.00	51.00	1581.00
5-1-2.	Providing & erecting Approved make Ceiling Fan with double ball bearing ISI mark with condenser A.C.230V 50c/s. 1400 mm. sweep complete, canopy erected on existing hook or clamp with earthing [Make shall be approved by Engineer in Charge]	Ea.	18.00	1670.00	51.00	1721.00
5-1-3.	Providing & erecting Approved make Ceiling Fan with double ball bearing ISI mark with Condenser 230 volt A.C.50 Hz 1200 mm sweep complete having 3 blades aluminium body and blade sets having ornamental design shanks , canopy erected with earthing. [Make shall be approved by Engineer in Charge]	Ea.	18.00	2238.00	51.00	2289.00
5-1-4.	Providing & erecting Approved make Ceiling Fan with double ball bearing ISI mark with Condenser 230 volt A.C.50 Hz. 1200 mm sweep complete having 4 blades Aluminium body and blade sets having ornamental design shanks, canopy erected with earthing [Make shall be approved by Engineer in Charge]	Ea.	18.00	2284.00	51.00	2335.00
5-1-5.	Providing & erecting Approved make Ceiling Fan with double ball bearing with Condenser 230 volt A.C.50 Hz. 900 mm sweep complete having 3 Aluminium blades, canopy erected complete. [Make shall be approved by Engineer in Charge]	Ea.	18.00	1912.00	51.00	1963.00
5-1-6.	Providing & erecting Approved make Power Saving 50 Watt Ceiling Fan with double ball bearing ISI mark with Condenser 230 volt A.C. 50 Hz 1200 mm sweep complete having 3blades with aluminium blades with , canopy & 30 cm. down rod erected with earthing.(Make shall be approved by Engineer in charge))	Ea.	18.00	1878.00	51.00	1929.00

Item No	Description	Unit	GST Material	Cost of Materials	Cost of Labour	Total
5-1-7.	Supply, Installation, Testing and Commissioning of suitable sweep, BEE 5 Star rated, Ceiling fan with Brush Less Direct Current (BLDC) permanent ferrite magnet Motor, class of insulation: B, Rust free 3 nos.Aluminium blades, 2 nos. canopies, shackle kit with earthing provision, copper winding, Power factor not < 0.9, Service Value (CMM/W) minimum 6.85, Air delivery minimum 215 CMM, 350 RPM,230v (tolerance as per IS : 374-2019), THD < 10%, with remote unit for Speed Control and all remaining accessories including safety pin, nut bolts, washers, temperature rise = 75 degree C (Max.), suitable for 140 to 285 Voltage and rectifier circuit with surge, over current and overload protection , 50 Hz, Single phase AC Supply, earthing etc. Complete as required.[Make shall be approved by Engineer in Charge]					
	(A)900 mm sweep (36")	Ea.	18.00	2712.00	60.00	2772.00
	(B) 1200 mm Sweep (48")	Ea.	18.00	2797.00	60.00	2857.00
	(C) 1400 mm Sweep (56")	Ea.	18.00	3263.00	60.00	3323.00
5-1-8.	Supply, Installation, Testing and Commissioning of suitable sweep, BEE 5 Star rated, Ceiling fan with Brush Less Direct Current (BLDC) permanent ferrite magnet Motor, class of insulation: B, Rust free 3 nos.Aluminium blades, 2 nos. canopies, shackle kit with earthing provision, copper winding, Power factor not < 0.9, Service Value (CMM/W) minimum 6.85, Air delivery minimum 215 CMM, 350 RPM,230v (tolerance as per IS : 374-2019), THD < 10%, compitible with electronic regulator unit for Speed Control and all remaining accessories including safety pin, nut bolts, washers, temperature rise = 75 degree C (Max.), suitable for 140 to 285 Voltage and rectifier circuit with surge, over current and overload protection , 50 Hz, Single phase AC Supply, earthing etc. Complete as required.[Make shall be approved by Engineer in Charge] (A) 1200 mm Sweep (48")	Ea.	18.00	2543.00	60.00	2603.00
5-1-9.	Suppling & Erecting Low ceiling height solution for FAN ,AC single phase CS&R motor,230 Volt, 50 Hz Supply cord length from outside the fan 400mm minimum,Weight of completely assembled fan(without packing)4.85kg ±10% ,Blade weight 270gm ±10%,Front frame outer size 590 x 590 ± 5mm,Duct or Hole size OD 5 x 585 ± 5mm,Capacitor Value 2.0 MFd,Fa should be dust free/scratch free/dirt free/Flashes free/free from wire damage/crack free.,Blade Material ABS With Neessesary.			4469.00	100.00	4569.00
SECTION 5-2 FAN ACCESSORIES						
5-2-1.	Supplying and erecting 19 / 20 mm. nominal bore Medium Class M.S. Pipe down rod erected duly painted for fan complete with proper insulation without leakage and earthing.	Mtr.	18.00	94.00	13.00	107.00

Item No	Description	Unit	GST Material	Cost of Materials	Cost of Labour	Total
5-2-2.	Supplying & erecting Fan Hook of 10 mm M.S. Round bar grouted in RCC slab with Making the site as original.	Ea.	18.00	26.00	17.00	43.00
5-2-3.	Supplying & erecting fan hook box of 10 mm M.S. round bar bounded to the RCC bars up to 50mm length each side and pierced through a 16 Gauge M.S. box / Heavy Duty PVC box complete erected concealed in Ceiling with necessary finishing.	Ea.	18.00	94.00	13.00	107.00
5-2-4.	Providing Fan clamp of 30 x 5 mm flat of required length & 10 mm M.S. Bolt & Nuts erected with necessary hook of 10 mm M.S. Round Bar.	Ea.	18.00	85.00	13.00	98.00
5-2-5.	Providing 2.5mm.thick laminated acrylic sheet to cover the fan hook or Fan box.	Ea.	18.00	16.00	2.00	18.00
SECTION 5-3 TABLE FANS, EXHAUST FANS & ACCESSORIES						
5-3-1.	Supplying Table fan approved make A.C. 230V, 50 c/s. 40 cm. sweep oscillating complete with 3 mtrs. of 3core round flexible wire and 3 pin plug top. [Make shall be approved by Engineer in Charge]	Ea.	18.00	1823.00	0.00	1823.00
5-3-2.	Providing & erecting fresh air fan 250 mm dia with square frame make of ABS body with louvers					
	Cat.II	Ea	18.00	1484.00	60.00	1544.00
5-3-3.	Supplying & erecting approved make low noise decorative exhaust fan having square frame ABS body with inbuilt lowers & square frame.					
	200mm with 1350RPM Cat.II	Ea.	18.00	1636.00	51.00	1687.00
	250mm with 1350 RPM Cat.II	Ea.	18.00	1302.00	51.00	1353.00
5-3-4.	Supplying & erecting single phase approved make industrial exhaust fan suitable for medium duty ring mounted low noise operation suitable for medium duty having following dia size and maximum speed in RPM					
	[A] 305 mm dia 900 RPM					
	Cat.I	Ea	18.00	1323.00	34.00	1357.00
	Cat.II	Ea	18.00	2000.00	34.00	2034.00
	[B] 380 mm dia 900 RPM					
	Cat.I	Ea	18.00	1861.00	47.00	1908.00
	Cat.II	Ea	18.00	2666.00	47.00	2713.00
	[C] 380 mm dia 1400 RPM					
	Cat.I	Ea	18.00	1988.00	47.00	2035.00
	Cat.II	Ea	18.00	3005.00	47.00	3052.00
	[D] 450 mm dia 900 RPM					
	Cat.I	Ea	18.00	2242.00	47.00	2289.00
	Cat.II	Ea	18.00	3259.00	47.00	3306.00
	[E] 450 mm dia 1400 RPM					
	Cat.I	Ea	18.00	2412.00	47.00	2459.00
	Cat.II	Ea	18.00	3852.00	47.00	3899.00
5-3-5.	Supplying & erecting approved make 230 V , 50 Hz Operating Voltage low noise decorative Roof Mounting Exhaust fan having square frame and Slitted guard with mounting accessories, necessary pipings and fittings.					
	(A) 300x300x200mm with 1250 RPM	Ea.	18.00	4153.00	85.00	4238.00
5-3-6.	Providing suitable M.S. louver shutter of the Exhaust fan.	Ea.	18.00	297.00	68.00	365.00

Item No	Description	Unit	GST Material	Cost of Materials	Cost of Labour	Total
5-3-7.	Supplying & erecting electro galvanised G.I. wire micro mesh jali cover of grade 304 required size with suitable wooden frame duly fitted in wall outside of exhaust fan for insect protection.	Sq. Mtr	18.00	577.00	51.00	628.00
5-3-8.	Providing recess in wall or window frame suitable for erection of Exhaust fan complete with plastering and colour washing to match the colour of the wall or window complete with expanded metal in order to render the fitting in accessible and the room water-proof.	Ea.	18.00	94.00	94.00	188.00
5-3-9.	Providing window frame suitable for erection of Exhaust fan complete covering the remaining portion of window with 15 mm. thick plywood and colour washing to match the colour of the wall.	Ea.	18.00	128.00	43.00	171.00
5-3-10.	Supplying approved make heat convactor two speed motor, thermal cut-out complete with necessary lead Core and plug top.	Ea.	18.00	2034.00	0.00	2034.00
SECTION 5-4 BRACKET FANS						
5-4-1.	Supplying and erecting approved make Bracket fan of 230 volt, A.C. 50 Cy/s., 400/450 mm sweep complete erected on wall or with lead Cores and connections complete.					
	Cat.I	Ea.	18.00	1399.00	51.00	1450.00
	Cat.II	Ea.	18.00	2034.00	51.00	2085.00
5-4-2.	Supplying and erecting approved make oscillating type bracket fan A.C. 230V. 50cy/s 400/450 mm sweep wall mounted with height adjustment and rotary tilting device complete with guard, flexible Core plug top complete erected with lead wires as directed.					
	Cat.I	Ea.	18.00	2034.00	51.00	2085.00
	Cat.II	Ea.	18.00	2458.00	51.00	2509.00
5-4-3.	Supplying and erecting approved make oscillating type medium duty bracket fan with Aluminium Blades A.C. 230V. 50cy/s wall mounted with height adjustment and rotary tilting device complete with guard, mounting accessories kit, pull cord for speed and oscillation flexible Core plug top complete erected with lead wires as directed.					
	(a) 400mm	Ea.	18.00	2278.00	51.00	2329.00
5-4-4.	Supplying and erecting approved make oscillating type medium duty bracket fan with Aluminium Blades A.C. 230V. 50cy/s, with thermal overload protection wall mounted with height adjustment and rotary tilting device complete with guard, pull cord for speed and oscillation flexible Core plug top complete erected with lead wires as directed.					
	(a) 450mm	Ea.	18.00	3433.00	51.00	3484.00
5-4-5.	Supplying and erecting approved make double ball bearing oscillating type Heavy duty bracket fan with Aluminium Blades A.C. 230V. 50cy/s wall mounted with height adjustment and rotary tilting device complete with guard, wall bracket, mounting accessories as directed.					

Item No	Description	Unit	GST Material	Cost of Materials	Cost of Labour	Total
	(A) 450mm	Ea.	18.00	4850.00	51.00	4901.00
	(B) 600mm	Ea.	18.00	6324.00	51.00	6375.00
	(C) 750mm	Ea.	18.00	8190.00	51.00	8241.00
5-4-6.	Supplying and erecting approved make Cabin fan of 230V. A.C. 50 Cy/s. 400 mm. sweep oscillating type complete erected with lead wires as directed.					
	Cat.I	Ea.	18.00	1060.00	43.00	1103.00
	Cat.II	Ea.	18.00	1484.00	43.00	1527.00
SECTION 5-5 / PEDESTAL AND CIRCULATORY FANS						
5-5-1.	Supplying and erecting approved make pedestal fan A.C. 230V. 50 Cy/s. 400 mm sweep oscillating, type and adjustable, height complete with guard regulator, & standard lead flexible wires and plug top.					
	Cat.I	Ea.	18.00	1729.00	9.00	1738.00
	Cat.II	Ea.	18.00	2111.00	9.00	2120.00
5-5-2.	Supplying and erecting approved make Pedestal Circulatory fan A.C. 230 V. 50 Cy/s. 600 mm sweep and adjustable height complete with guard, & standard lead flexible wires and plug top.					
	Cat.I	Ea.	18.00	3297.00	9.00	3306.00
	Cat.II	Ea.	18.00	3975.00	9.00	3984.00
SECTION 5-6 / REPAIRING OF FANS MISCELLANEOUS						
5-6-1.	Conveyance charges for Ceiling fan, Table fan, Exhaust fan, Pedestal fan, Bracket fan and cabin fan etc.(from store to worksite OR site to workshop or back for repairing)	Ea.	18.00	0.00	26.00	26.00
5-6-2.	Removing the installed Ceiling fan / Exhaust Fan for servicing / repairing from ceiling and reinstalling the same after making in working condition.	Ea.	18.00	0.00	43.00	43.00
5-6-3.	Servicing the uninstalled ceiling fan with washing & throughing blades, canopies, making dry , checking all nut-bolts, replacing quarter pin & oiling /greasing and testing complete.	Ea.	18.00	0.00	34.00	34.00
5-6-4.	Spray painting the Ceiling fan by using ultra white enamel paint after scraping the surface and applying the primer coating.	Ea.	18.00	68.00	22.00	90.00
5-6-5.	Painting the Table fan / Exhaust fan Pedestal Fan by using good quality of paint after scraping the surface and applying the primer coat.	Ea.	18.00	43.00	26.00	69.00
5-6-6.	Rewinding of Any fan by using supper enamelled copper wire and over hauling and putting in working order with original speed with guarantee for one year including credit of D.M. retained by Agency.	Ea.	18.00	316.00	82.00	398.00
5-6-7.	Replacing the bearing/ bushing of Ceiling fan and putting the fan in working order including credit of D.M. retained by Agency.					
	(a) Bearing	Ea.	18.00	85.00	17.00	102.00
	(b) Bushing	Ea.	18.00	26.00	17.00	43.00
5-6-8.	Replacing condenser for ceiling fan/ Exhaust Fan / Pedestal Fan / Table Fan / Cabin Fan {Credit of D.M. retained by Agency.}	Ea.	18.00	51.00	13.00	64.00
5-6-9.	Replacing the bearing/ bushing of Table fan Pedestal Fan / Exhaust Fan and putting the fan in working order including {Credit of D.M. retained by Agency.}					
	(a) Bearing	Ea.	18.00	68.00	17.00	85.00

Item No	Description	Unit	GST Material	Cost of Materials	Cost of Labour	Total
	(b) Bushing rubber, ring, washers	Ea.	18.00	34.00	17.00	51.00
5-6-10.	Replacing approved make fan regulator resistance type for Ceiling fan {credit of D.M. retained by Agency.}	Ea.	18.00	77.00	13.00	90.00
5-6-11.	Rewinding of 2900 RPM, 250V. Fan Motor of air circulators by using supper enamelled copper wire and over hauling & put in working order with original speed with guarantee for one year including transportation from site & back including {Credit of D.M. retained by Agency.}	Ea.	18.00	424.00	60.00	484.00
5-6-12.	Repairing and Reconditioning of CF by welding the shaft portion & making the shaft as per bearing size by grinding and putting it into working order	Ea.	18.00	0.00	200.00	200.00

CHEPTE - VI Street lighting					
6-1 STREET LIGHT POLES					
Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
6-1-1.	Supplying & erecting Galvanized M.S pipe post "B" class 88.9 mm O.D 4 mtr. Long duly painted with two coats of aluminium paint complete with metallic base plate of 300 mm x 300 mm x 4mm thick for using as a compound light pole with approx. weight 32 Kg.	Ea.	3041.00	153.00	3194.00
6-1-2.	Supplying & erecting Galvanized M.S pipe post "B" class 88.9 mm O.D 6 mtr. Long duly painted with two coats of aluminium paint complete with metallic base- plate of 300 mm x 300 mm x 4mm thick for using as a compound light pole with approx. weight 47 Kg.	Ea.	4234.00	163.00	4397.00
6-1-3.	Supplying & erecting Steel tubular pole (Swaged) confirming to IS - 2713 (Part-II) 1980. Manufacturing process of steel tubular pole should be as per IS specification. Basic steel tube should be ISI Marked. Pole should be painted by one coat of Zinc comet Primer and two coat of Aluminium /approved paint to be erected on / in existing Foundation. The length of poles are as below.				
	(A) 7.5 mtr. Long Swaged Steel tubular pole				
	(i) pole as per IS code 410-SP-4 with 300 X 300 X 4 mm base plate with necessary G.I. J Bolts (Approximate Pole weight 67 Kg) For burial erection	Ea.	6920.00	255.00	7175.00
	(ii) Add Extra for M.S. Base plate 300 X 300 X 16 mm for pole, Suitable for mounting on surface of foundation with GI foundation bolts, with required stiffeners welded with pole.	Ea.	888.00	85.00	973.00
	(iii) Add Extra for PU base primer and PU Paint on pole.	Ea	323.00	60.00	383.00
	(B) 8.5 mtr. Long Swaged Steel tubular pole				
	(i) Pole as per IS code 410-SP-16 with 300 X 300 X 4 mm base plate with necessary G.I. J Bolts (Approximate weight 75 Kg) For burial erection	Ea.	7729.00	339.00	8068.00
	(ii) Add Extra for M.S. Base plate 300 X 300 X 16 mm for pole, mounting on surface of foundation on GI foundation bolt. with required stiffeners.	Ea.	888.00	85.00	973.00
	(iii) Add Extra for PU base primer and PU Paint on pole.	Ea	371.00	68.00	439.00
	(C) 9.0 mtr. Long Swaged Steel tubular pole				
	(i) Pole as per IS code 410-SP-25 with 300 X 300 X 4 mm base plate with necessary G.I. J Bolts (Approximate weight 78 Kg) For burial erection	Ea.	8041.00	339.00	8380.00
	(ii) Add Extra for M.S. Base plate 300 X 300 X 16 mm for pole, mounting on surface of foundation on GI foundation bolt. with required stiffeners.	Ea.	888.00	85.00	973.00
	(iii) Add Extra for PU base primer and PU Paint on pole.	Ea	400.00	77.00	477.00
	(D) 10.00 mtr. Long Swaged Steel tubular pole				
	(i) Pole as per IS code 410-SP-40 with 300 X 300 X 6 mm base plate with necessary G.I. J Bolts . (Approximate weight 128 Kg) For burial erection	Ea.	13060.00	424.00	13484.00
	(ii) ADD Extra for M.S. Base plate 300 X 300 X 16 mm for pole, mounting on surface of foundation on GI foundation bolt. with required stiffeners.	Ea.	888.00	85.00	973.00
	(iii) Add Extra for PU base primer and PU Paint on pole.	Ea	449.00	85.00	534.00
	(E) 11.00 mtr. Long Swaged Steel tubular pole				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(i) pole as per IS code 410-SP-49 with 350 X 350 X 6 mm base plate with necessary G.I. J Bolts . (Approximate weight 140 Kg)For burial erection	Ea.	14254.00	509.00	14763.00
	(ii) Add Extra for M.S. Base plate 400 X 400 X 16 mm for pole, mounting on surface of foundation on GI foundation bolt. with required stiffeners.	Ea.	1560.00	128.00	1688.00
	(iii) Add Extra for PU base primer and PU Paint on pole.	Ea	498.00	94.00	592.00
	(F) 12.00 mtr. Long Swaged Steel tubular pole as per IS code 410-SP-58 with 450 X 450 X 6 mm base plate with necessary G.I. J Bolts (Approximate weight 186 Kg) For burial erection	Ea.	18859.00	509.00	19368.00
	(ii) ADD Extra for M.S. Base plate 400 X 400 X 16 mm for pole, mounting on surface of foundation on GI foundation bolt. with required stiffeners.	Ea.	1560.00	128.00	1688.00
	(iii) Add Extra for PU base primer and PU Paint on pole.	Ea	546.00	94.00	640.00
	(G) 13.00 mtr. Long Swaged Steel tubular Pole				
	(i) pole as per IS code 410-SP-67 with 450 X 450 X 6 mm base plate with necessary G.I. J Bolts . (Approximate weight 261 Kg) For burial erection	Ea.	26314.00	509.00	26823.00
	(ii) ADD Extra for M.S. Base plate 450 X 450 X 20 mm for pole, mounting on surface of foundation on foundation bolt. with required stiffeners.	Ea.	2486.00	149.00	2635.00
	(iii) Add Extra for PU base primer and PU Paint on pole.	Ea	585.00	94.00	679.00
	(H) 16.00 mtr. Long Swaged Steel tubular pole				
	(i) Pole as per IS code 410-SP-77 with 450 X 450 X 10 mm base plate with necessary G.I. J Bolts. (Approximate weight 341 Kg)For burial erection	Ea.	34403.00	636.00	35039.00
	(ii) Add Extra for M.S. Base plate 500 X 500 X 20 mm for pole, mounting on surface of foundation on GI foundation bolt. with required stiffeners.	Ea.	3119.00	170.00	3289.00
	(iii) Add Extra for PU base primer and PU Paint on pole.	Ea	634.00	102.00	736.00
Octagonal poles					
6-1-4.	Supplying and erecting approved make Octagonal pole made from HR sheet steel. The pole should be made as per IS. and shall be coated with hot dip galvanizing as per IS 2629/2633/4759, suitable suspend local wind speed with integral Junction box consist of terminal plate of min 6mm Hylam sheet, standard profile 35mmX7.5mm Din-Rail for MCB Mounting, stud type terminal and arrangement for cable termination to be erected With Suitable foundation (Included) as per details given by manufacturer considering site requirement.				
	(A) 3 Mtr. Long 70 mm Top X 130 mm bottom dia.3 mm thickness with 200mmX200mmX12mm base plate, 4-M16 Bolts and 450mm long with necessary G.I. J Bolts .Approx weight 29 kg	Ea.	3916.00	280.00	4196.00
	(B) 4 Mtr. Long 70 mm Top X 130 mm bottom dia, 3 mm thickness with 200mmX200mmX12mm base plate, 4-M16 Bolts and 450mm long with necessary G.I. J Bolts .Approx weight 37 kg	Ea.	5221.00	280.00	5501.00
	(C) 5 Mtr. Long 70 mm Top X 130 mm bottom dia, 3 mm thickness with 200mmX200mmX12mm base plate, 4-M16 Bolts and 600mm long with necessary G.I. J Bolts .Approx Pole weight 46 kg	Ea.	6526.00	280.00	6806.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(D) 6 Mtr. Long 70 mm Top X 135 mm bottom dia, 3 mm thickness with 200mmX200mmX12mm base plate, 4-M20 Bolts and 600mm long with necessary G.I. J Bolts .Approx Pole weight 59 kg	Ea.	7831.00	280.00	8111.00
	(E) 7 Mtr. Long 70 mm Top X 135 mm bottom dia, 3 mm thickness with 225mmX225mmX16mm base plate, 4-M20 Bolts and 600mm long with necessary G.I. J Bolts .Approx Pole weight 67 kg	Ea.	10963.00	336.00	11299.00
	(G) 8 Mtr. Long 70 mm Top X 155 mm bottom dia, 3 mm thickness with 260mmX260mmX16mm base plate, 4-M20 Bolts and 600mm long with necessary G.I. J Bolts .Approx Pole weight 84 kg	Ea.	13424.00	448.00	13872.00
	(H) 9 Mtr. Long 70 mm Top X 155 mm bottom dia, 3 mm thickness with 260mmX260mmX16mm base plate, 4-M24 Bolts and 750mm long with necessary G.I. J Bolts .Approx Pole weight 97 kg	Ea.	15102.00	448.00	15550.00
	(I) 10 Mtr. Long 70 mm Top X 175 mm bottom dia, 4 mm thickness with 275mmX275mmX16mm base plate, 4-M24 Bolts and 750mm long with necessary G.I. J Bolts .Approx Pole weight 145 kg	Ea.	19017.00	560.00	19577.00
	(J) 11 Mtr. Long 90 mm Top X 210 mm bottom dia, 4 mm thickness with 300mmX300mmX20mm base plate, 4-M24 Bolts and 750mm long with necessary G.I. J Bolts .Approx Pole weight 192 kg	Ea.	24611.00	672.00	25283.00
	(K) 12 Mtr. Long 90 mm Top X 240 mm bottom dia, 4 mm thickness with 320mmX320mmX20mm base plate, 4-M24 Bolts and 850mm long with necessary G.I. J Bolts .Approx Pole weight 230 kg	Ea.	28190.00	672.00	28862.00
Conical Poles (Standard)					
6-1-5.	Supplying and erecting approved make Conical Pole (Standard) Made from HR sheet steel. The pole should be made as per IS. and shall be coated with hot dip galvanizing as per IS 2629/2633/4759 with required base plate and integral Junction box consist of terminal plate of min 6mm Hylam sheet, standard profile 35mmX7.5mm Din-Rail for MCB Mounting, stud type terminal and arrangement for cable terminations erected on suitable foundation (included) with necessary GI nut-bolts/J-Bolts. as per details given by manufacturer considering site requirement.The length of poles are as below.				
	(A) 3 Mtr. Long 65mm Top X110 mm bottom dia,3mm thickness.	Ea.	3636.00	280.00	3916.00
	(B) 4 Mtr. Long 65mm Top X125 mm bottom dia, 3mm thickness.	Ea.	4848.00	280.00	5128.00
	(C) 5 Mtr. Long 65mm Top X140 mm bottom dia, 3mm thickness.	Ea.	6060.00	280.00	6340.00
	(D) 6 Mtr. Long 65mm Top X155 mm bottom dia, 3mm thickness.	Ea.	8390.00	280.00	8670.00
	(E) 7 Mtr. Long 65mm Top X170 mm bottom dia, 3mm thickness.	Ea.	10441.00	280.00	10721.00
	(F) 8 Mtr. Long 65mm Top X185 mm bottom dia, 3mm thickness.	Ea.	11933.00	373.00	12306.00
	(G) 9 Mtr. Long 65mm Top X200 mm bottom dia, 3mm thickness.	Ea.	14263.00	373.00	14636.00
	(H) 10 Mtr. Long 70mm Top X220 mm bottom dia, 3mm thickness.	Ea.	16780.00	467.00	17247.00
	(I) 11 Mtr. Long 70mm Top X235 mm bottom dia, 3mm thickness.	Ea.	19484.00	560.00	20044.00
	(J) 12 Mtr. Long 70mm Top X250 mm bottom dia, 3mm thickness.	Ea.	22373.00	560.00	22933.00
Conical Poles (Medium Duty)					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
6-1-6.	Supplying and erecting approved make Conical Pole (Medium Duty) Made from HR sheet steel. The pole should be made as per IS. and shall be coated with hot dip galvanizing as per IS 2629/2633/4759, with required base plate and integral Junction box consist of terminal plate of min 6mm Hylam sheet, standard profile 35mmX7.5mm Din-Rail for MCB Mounting, stud type terminal and arrangement for cable terminations as erected on suitable foundation (included) with necessary GI nut-bolts/J-Bolts. as per details given by manufacturer considering site requirement. The length of poles are as below.				
	(A) 3 Mtr. Long 70 mm Top X 115 mm bottom dia, 3 mm thickness.	Ea.	4848.00	234.00	5082.00
	(B) 4 Mtr. Long 70 mm Top X 130 mm bottom dia, 3 mm thickness	Ea.	6200.00	234.00	6434.00
	(C) 5 Mtr. Long 70 mm Top X 145 mm bottom dia, 3 mm thickness.	Ea.	7831.00	234.00	8065.00
	(D) 6 Mtr. Long 70 mm Top X 160 mm bottom dia, 3 mm thickness	Ea.	9789.00	280.00	10069.00
	(E) 7 Mtr. Long 70 mm Top X 175 mm bottom dia, 3 mm thickness	Ea.	11839.00	280.00	12119.00
	(F) 8 Mtr. Long 70 mm Top X 190 mm bottom dia, 3 mm thickness	Ea.	14170.00	373.00	14543.00
	(G) 9 Mtr. Long 70 mm Top X 205 mm bottom dia, 3 mm thickness	Ea.	16128.00	373.00	16501.00
	(H) 10 Mtr. Long 80 mm Top X 220 mm bottom dia, 3 mm thickness	Ea.	18924.00	467.00	19391.00
	(I) 11 Mtr. Long 80 mm Top X 245 mm bottom dia, 3 mm thickness	Ea.	22653.00	560.00	23213.00
	(J) 12 Mtr. Long 80 mm Top X 260 mm bottom dia, 3 mm thickness	Ea.	26568.00	560.00	27128.00
FRP / GRP POLE					
(Fibre reinforced polymer pole)					
6-1-7	Supply of approved make FRP Pole having following specifications: FRP Light Pole made by CNC filament winding machine using thermoset resin polyester/epoxy resin system) having minimum 62% glass content. The pole should be in one piece and tapered round in shape, having smooth finish and should be totally free from corrosion as well as non conductive & shock proof Pole should be provided with FRP Anchor Base and it should be heavy duty, or MS Material duly painted with Epoxy paint.				
6-1-7 CONTI	Pole should be flame retardant as per IS 6746. Resin used shall be UV resistance and pigmented. A highly weather resistant polyurethane coating shall be applied to the pole after applying suitable primer system that ensures proper adhesion of the paint. Minimum coating thickness shall be 80 to 100 micron. Deflection of the pole shall not exceed more than 10% of the length of pole for the given load" Pole should be generally made as per the dimensional data, performance criteria and some interchangeability features of poles as per standard ANSI C 136.20 latest version or ASTM D 4923/01 including cable termination box with necessary accessories . The size of pole and type of installation with foundation as per manufacturer details and site requirement are as below .				
	(1) Suitable for base plate mounting single arm Bracket.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[A] Overall length of 2.5 Mtr, Average Thickness: 7mm. Top/ Bottom OD Dia A/F 89/124 mm ± 2mm. Weight of Pole 10Kg approx. (Without Base) Anchor Base (Size 250X250 & 12mm Th.)	Ea	7246.00	162.00	7408.00
	[B] Overall length of 3 Mtr Average Thickness: 7mm. Top/ Bottom OD Dia A/F 89/130mm ± 2mm approx. Weight of Pole: 12 kg approx. (Without Base) Anchor Base (Size 250X250 & 12mm th.)	Ea	8009.00	162.00	8171.00
	[C] Overall length of 3.5 Mtr. Average Thickness: 7mm. Top/ Bottom OD Dia A/F 89/135 mm ± 2mm approx. Approx. Weight of Pole 15kg. approx. (Without Base) Anchor Base (Size 250X250 & 12mm th.)	Ea	8772.00	162.00	8934.00
	[D] Overall length of 4 Mtr. Average Thickness: 7mm. Top/ Bottom OD Dia A/F 89/145 mm ± 2mm approx. Approx. Weight of Pole 19 kg approx. (Without Base) Anchor Base (Size 250X250 & 12mm th.)	Ea	9534.00	162.00	9696.00
	[E] Overall length of 4.5 Mtr. Average Thickness: 7.5mm Top/ Bottom OD Dia A/F 89/151mm ± 2mm approx. approx. Weight of Pole 21 kg approx. (Without Base) Anchor Base (Size 250X250 & 16mm th.)	Ea	10678.00	162.00	10840.00
	[F] Overall length of 5 Mtr. Average Thickness: 7.5mm OD Dia A/F 89/158 mm ± 2mm approx. approx. Weight of Pole 25 kg approx. (Without Base) Anchor Base (Size 250X250 & 16mm th.)	Ea	11441.00	162.00	11603.00
	[G] Overall length of 5.5 Mtr. Average Thickness: 7.5mm. Top/ Bottom OD Dia A/F 89/165 mm ± 2mm approx. approx. Weight of Pole 27 kg approx. (Without Base) Anchor Base (Size 250X250 & 16mm th.)	Ea	12458.00	191.00	12649.00
	[H] Overall length of 6 Mtr. Average Thickness: 7.5mm Top/ Bottom OD Dia A/F 89mm ± 2mm approx. approx. Weight of Pole 32 kg approx. (Without Base) Anchor Base (Size 300X300 & 18mm Th.)	Ea	13729.00	191.00	13920.00
	[I] Overall length of 6.5 Mtr Average Thickness: 7.5mm. Top/ Bottom OD Dia A/F 89/177 mm ± 2mm approx. approx. Weight of Pole 35 kg approx. (Without Base) Anchor Base (Size 300X300 & 18mm th.)	Ea	14556.00	191.00	14747.00
	[J] Overall length of 7 Mtr.Average Thickness: 7.5mm. Top/ Bottom OD Dia A/F 89/183 mm ± 2mm approx. approx. Weight of Pole 40 kg approx. (Without Base) Anchor Base (Size 300X300 & 18mm th.)	Ea	15793.00	191.00	15984.00
	(2) Suitable for base plate mounting Double arm Bracket.				
	[A] Overall length of 5 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia A/F 114/163mm ± 2mm approx.approx. Weight of Pole 31 kg approx. (Without Base) Anchor Base (Size 300X300 & 18mm th.)	Ea	12140.00	162.00	12302.00
	[b] Overall length of 5.5 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia A/F 114/168mm ± 2mm approx. approx. Weight of Pole 34 kg approx. (Without Base) Anchor Base (Size 300X300 & 18mm th.)	Ea	13157.00	191.00	13348.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[C] Overall length of 6 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia A/F 114/174 mm \pm 2mm approx. approx. Weight of Pole 38 kg approx. (Without Base) Anchor Base (Size 300X300 & 18mm th.)	Ea	14556.00	191.00	14747.00
	[D] Overall length of 6.5 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia A/F 114/178 mm \pm 2mm approx. approx. Weight of Pole 43 kg approx. (Without Base) Anchor Base (Size 300X300 & 18mm th.)	Ea	15445.00	191.00	15636.00
	[E] Overall length of 7 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia A/F 114/183 mm \pm 2mm approx. approx. Weight of Pole 47 kg approx. (Without Base) Anchor Base (Size 300X300 & 18mm th.)	Ea	16335.00	191.00	16526.00
	[F] Overall length of 7.5 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia A/F 114/189 mm \pm 2mm approx. approx. Weight of Pole 51 kg approx. (Without Base) Anchor Base (Size 300X300 & 18mm th.)	Ea	17606.00	191.00	17797.00
	[G] Overall length of 8 Mtr. Average Thickness: 8mm, Top/ Bottom OD Dia A/F 114/195 mm \pm 2mm approx. approx. Weight of Pole 54 kg approx. (Without Base) Anchor Base (Size 350X350 & 20mm th.)	Ea	18496.00	255.00	18751.00
	[H] Overall length of 9 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia A/F 114/202 mm \pm 2mm approx. approx. Weight of Pole 64 kg approx. (Without Base) Anchor Base (Size 350X350 & 20mm th.)	Ea	20276.00	255.00	20531.00
	[I] Overall length of 10.5 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia A/F 114/213 mm \pm 2mm approx. approx. weight of Pole 83 kg approx. (Without Base) Anchor Base (Size 350X350 & thickness of 20mm)	Ea	23136.00	318.00	23454.00
	[J] Overall length of 12 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia: 114/231mm \pm 2mm approx. approx. Weight of Pole 130 kg approx. (Without Base) Anchor Base (Size 400X400 & 20mm Th.)	Ea	35022.00	382.00	35404.00
	(3) Suitable for direct grouting & Single arm Bracket.				
	[A] Overall length of 3.5 Mtr. Average Thickness: 7 mm. Top/ Bottom OD Dia: 90/124 mm \pm 3mm approx. approx. Weight of Pole 16 kg approx	Ea	5450.00	162.00	5612.00
	[B] Overall length of 4 Mtr. Average Thickness: 7mm. Top/ Bottom OD Dia: 90/130 mm \pm 2mm approx. approx. Weight of Pole 18 kg approx.	Ea	6191.00	162.00	6353.00
	[C] Overall length of 4.5 Mtr. Average Thickness: 7 mm. Top/ Bottom OD Dia: 4.5/136 mm \pm 3mm approx. approx. Weight of Pole 21 kg approx.	Ea	7183.00	162.00	7345.00
	[D] Overall length of 5 Mtr. Average Thickness: 7mm. Top/ Bottom OD Dia: 90/145 mm \pm 3mm approx. approx. Weight of Pole 25 kg approx.	Ea	8009.00	162.00	8171.00
	[E] Overall length of 5.5 Mtr. Average Thickness: 7.5 mm. Top/ Bottom OD Dia: 90/151mm \pm 3mm approx. approx. Weight of Pole 28 kg approx.	Ea	8772.00	191.00	8963.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[F] Overall length of 6 Mtr. Average Thickness: 7.5mm. Top/ Bottom OD Dia: 90/158mm \pm 2mm approx. approx. Weight of Pole 31 kg approx.	Ea	9916.00	191.00	10107.00
	[G] Overall length of 6.5 Mtr. Average Thickness: 7.5mm. Top/ Bottom OD Dia: 90/164 mm \pm 2mm approx. approx. Weight of Pole 35 kg approx.	Ea	10742.00	191.00	10933.00
	[H] Overall length of 7.0 Mtr. Average Thickness: 7.5mm.Top/ Bottom OD Dia: 90/170 mm \pm 2mm approx. approx. Weight of Pole 42 kg approx.	Ea	11759.00	191.00	11950.00
	[I] Overall length of 7.5 Mtr. Average Thickness: 7.5mm. Top/ Bottom OD Dia: 90/117mm \pm 2mm approx. approx. Weight of Pole 45 kg approx.	Ea	12708.00	191.00	12899.00
	[J] Overall length of 8.0 Mtr. Average Thickness: 7.5mm. Top/ Bottom OD Dia: 90/183 mm \pm 2mm approx. approx. Weight of Pole 50 kg approx.	Ea	13539.00	255.00	13794.00
	(4) Suitable for direct grouting & Double Side Arm Bracket.				
	[A] Overall length of 6.0 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia: 114/136 mm \pm 2mm approx. approx. Weight of Pole 38 kg approx.	Ea	10297.00	191.00	10488.00
	[B] Overall length of 6.5 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia: 114/168 mm \pm 2mm approx. approx. Weight of Pole 42 kg approx.	Ea	10996.00	191.00	11187.00
	[C] Overall length of 7.0 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia: 114/174 mm \pm 2mm approx. approx. Weight of Pole 48 kg approx.	Ea	12903.00	191.00	13094.00
	[D] Overall length of 7.5 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia: 114/178 mm \pm 2mm approx. approx. Weight of Pole 52 kg approx.	Ea	13729.00	191.00	13920.00
	[E] Overall length of 8.0 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia: 114/183 mm \pm 2mm approx. approx. Weight of Pole 56 kg approx.	Ea	14619.00	255.00	14874.00
	[F] Overall length of 8.5 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia: 114/189 mm \pm 2mm approx. approx. Weight of Pole 60 kg approx.	Ea	15509.00	255.00	15764.00
	[G] Overall length of 9.5 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia: 114/195 mm \pm 2mm approx. approx. Weight of Pole 68 kg approx.	Ea	16971.00	318.00	17289.00
	[H] Overall length of 10.00 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia: 114/202 mm \pm 2mm approx. approx. Weight of Pole 77 kg approx.	Ea	18687.00	318.00	19005.00
	[I] Overall length of 12.00 Mtr. Average Thickness: 8mm. Top/ Bottom OD Dia: 114/213 mm \pm 2mm approx. approx. Weight of Pole 93 kg approx.	Ea	29810.00	382.00	30192.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
6-1-7(A)	Supply of approved make frp/grp pole having following specifications : FRP/GRP pole made by centrifugal moulding process using thermoset resin polyester/epoxy resin system having minimum glass content 45.0%.The pole should be in one piece and tapered round in shape, having smooth outside surface finish and should be totally free from corrosion as well as non conductive and shock proof. Pole should be provided with FRP/GRP base bracket duly fabricated from metal(M.S) and duly clad with FRP/GRP material to avoid any metal exposure and painted with PU paint. Pole should have mechanical properties i.e 1. Specific gravity (ASTM D 792) 1.3-1.8 Kg/m ³ , 2. Glass Content % by weight (ASTM D 2584) 45.0 -55.0%, 3. Water absorption (ASTM D 570) <0.5%, 4. Tensile Strength(ASTM D 638) 200+/-50Mpa, 5. Flexural strength (ASTM D 790) 250+/-50Mpa, 6. Compressive Strength (ASTM D 695) 200+/-50MPa, 7. Yield Strength(ASTM D638) 250 +/-50MPa.				
6-1-7 (A) CONTI	Pole should be flame retardant as per IS 6746. Resin used shall be UV resistance and pigmented. Pole should be painted with first coat of epoxy primer and then two coats of highly weather resistance polyurethane paint to ensure proper adhesion of the paint. Minimum thickness shall be 80 to 100 micron. Deflection of the pole shall not exceed more than 10.0 % of the length of the pole for the given load. Pole should be generally made as per the dimensional data, performance criteria and some interchangeability features of poles as per the standard ANSI C123.20 latest version of ASTM D 923/01 including cable termination box with necessary accessories. The size of pole and type of installation with foundation , Anchor Base & Internal junction box as per the manufacturer details and site requirement .				
	(1) 'A' class frp/grp pole suitable for base plate mounting				
	[A] Overall Length of 3.0 meter, Average thickness : 4mm, Top/Bottom Outside Dia. 76/126mm +/-2. Weight of Pole 7.5 Kg approx. (Without base) Metal Anchor Base duly frp clad (Size : 260 Ø * 12mmthk , Mounting hole PCD 210mm * 4 nos. of 16 Ø hole)	Ea	6865.00	162.00	7027.00
	[B] Overall Length of 4.0 meter, Average thickness : 4mm, Top/Bottom Outside Dia. 76/143mm +/-2. Weight of Pole 10.0 Kg approx. (Without base) Metal Anchor Base duly frp clad (Size : 290 Ø * 12mmthk , Mounting hole PCD 240mm * 4 nos. of 16 Ø hole)	Ea	8475.00	162.00	8637.00
	[C] Overall Length of 5.0 meter, Average thickness : 5mm, Top/Bottom Outside Dia. 76/160mm +/-2. Weight of Pole 17.0 Kg approx. (Without base) Metal Anchor Base duly frp clad (Size : 310 Ø * 12mmthk , Mounting hole PCD 260mm * 4 nos. of 16 Ø hole)	Ea	11272.00	162.00	11434.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[D] Overall Length of 6.0 meter, Average thickness : 5mm, Top/Bottom Outside Dia. 76/176mm +/-2.Weight of Pole 19.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 340 Ø * 12mmthk , Mounting hole PCD 285mm * 6 nos. of 20 Ø hole)	Ea	13306.00	162.00	13468.00
	[E] Overall Length of 7.0 meter, Average thickness : 6mm, Top/Bottom Outside Dia. 76/193mm +/-2.Weight of Pole 25.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 355 Ø * 14mmthk , Mounting hole PCD 300mm * 6 nos. of 20 Ø hole)	Ea	16314.00	162.00	16476.00
	[F] Overall Length of 8.0 meter, Average thickness : 6mm, Top/Bottom Outside Dia. 76/210mm +/-2.Weight of Pole 39.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 390 Ø * 14mmthk , Mounting hole PCD 330mm * 6 nos. of 20 Ø hole)	Ea	19534.00	162.00	19696.00
	[G] Overall Length of 9.0 meter, Average thickness : 7mm, Top/Bottom Outside Dia. 76/228mm +/-2.Weight of Pole 40.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 405 Ø * 18mmthk , Mounting hole PCD 350mm * 6 nos. of 20 Ø hole)	Ea	21992.00	191.00	22183.00
	[H] Overall Length of 10.0 meter, Average thickness : 7mm, Top/Bottom Outside Dia. 76/244mm +/-2.Weight of Pole 46.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 450 Ø * 18mmthk , Mounting hole PCD 390mm * 6 nos. of 20 Ø hole)	Ea	25467.00	191.00	25658.00
	(2) 'A' Class frp/grp pole suitable for direct grouting				
	[A] Overall Length of 3.0 meter, Average thickness : 4mm, Top/Bottom Outside Dia. 76/126mm +/-2.Weight of Pole 7.5 Kg approx. (Burial depth 800mm)	Ea	4704.00	162.00	4866.00
	[b] Overall Length of 4.0 meter, Average thickness : 4mm, Top/Bottom Outside Dia. 76/143mm +/-2.Weight of Pole 10.0 Kg approx. (Burial depth 800 mm)	Ea	6187.00	162.00	6349.00
	[C] Overall Length of 5.0 meter, Average thickness : 5mm, Top/Bottom Outside Dia. 76/160mm +/-2.Weight of Pole 17.0 Kg approx. (Burial depth 800mm)	Ea	8306.00	162.00	8468.00
	[D] Overall Length of 6.0 meter, Average thickness : 5mm, Top/Bottom Outside Dia. 76/176mm +/-2.Weight of Pole 19.0 Kg approx. (Burial depth 1000mm)	Ea	9746.00	191.00	9937.00
	[E] Overall Length of 7.0 meter, Average thickness : 6mm, Top/Bottom Outside Dia. 76/193mm +/-2.Weight of Pole 25.0 Kg approx. (Burial depth 1000mm)	Ea	11780.00	191.00	11971.00
	[F] Overall Length of 8.0 meter, Average thickness : 6mm, Top/Bottom Outside Dia. 76/210mm +/-2.Weight of Pole 39.0 Kg approx. (Burial depth 1000 mm)	Ea	13941.00	191.00	14132.00
	[G] Overall Length of 9.0 meter, Average thickness : 7mm, Top/Bottom Outside Dia.76/228mm +/-2.Weight of Pole 40.0 Kg approx. (Burial depth 1200mm)	Ea	16187.00	255.00	16442.00
	[H] Overall Length of 10.0 meter, Average thickness : 7mm, Top/Bottom Outside Dia. 76/244mm +/-2. Weight of Pole 46.0 Kg approx.(Burial depth 1200mm)	Ea	18221.00	255.00	18476.00
	(3) 'B' class (Heavy Duty) frp/grp pole suitable for base plate mounting				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[A] Overall Length of 3.0 meter, Average thickness : 6mm, Top/Bottom Outside Dia. 76/126mm +/-2. Weight of Pole 12.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 260 Ø * 12mmthk , Mounting hole PCD 210mm * 4 nos. of 16 Ø hole)	Ea	8772.00	162.00	8934.00
	[B] Overall Length of 4.0 meter, Average thickness : 6mm, Top/Bottom Outside Dia. 76/143mm +/-2. Weight of Pole 15.4 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 290 Ø * 12mmthk , Mounting hole PCD 240mm * 4 nos. of 16 Ø hole)	Ea	10551.00	162.00	10713.00
	[C] Overall Length of 5.0 meter, Average thickness : 7mm, Top/Bottom Outside Dia. 76/160mm +/-2. Weight of Pole 21.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 310 Ø * 12mmthk , Mounting hole PCD 260mm * 4 nos. of 16 Ø hole)	Ea	14026.00	162.00	14188.00
	[D] Overall Length of 6.0 meter, Average thickness : 7mm, Top/Bottom Outside Dia. 76/176mm +/-2. Weight of Pole 25.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 340 Ø * 12mmthk , Mounting hole PCD 285mm * 6 nos. of 20 Ø hole)	Ea	16653.00	162.00	16815.00
	[E] Overall Length of 7.0 meter, Average thickness : 8mm, Top/Bottom Outside Dia. 76/193mm +/-2. Weight of Pole 30.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 355 Ø * 14mmthk , Mounting hole PCD 300mm * 6 nos. of 20 Ø hole)	Ea	20509.00	191.00	20700.00
	[F] Overall Length of 8.0 meter, Average thickness : 8mm, Top/Bottom Outside Dia. 76/210mm +/-2. Weight of Pole 47.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 390 Ø * 14mmthk , Mounting hole PCD 330mm * 6 nos. of 20 Ø hole)	Ea	25848.00	191.00	26039.00
	[G] Overall Length of 9.0 meter, Average thickness : 9mm, Top/Bottom Outside Dia. 76/228mm +/-2. Weight of Pole 59.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 405 Ø * 18mmthk , Mounting hole PCD 350mm * 6 nos. of 20 Ø hole)	Ea	30255.00	191.00	30446.00
	[H] Overall Length of 10.0 meter, Average thickness : 9mm, Top/Bottom Outside Dia. 76/244mm +/-2. Weight of Pole 62.0 Kg approx. (Without base) Metal Anchor Base dully frp claded (Size : 450 Ø * 18mmthk , Mounting hole PCD 390mm * 6 nos. of 20 Ø hole)	Ea	34577.00	191.00	34768.00
	(4) 'B' class (Heavy Duty) pole suitable for direct grouting for single or a double arm				
	[A] Overall Length of 3.0 meter, Average thickness : 6mm, Top/Bottom Outside Dia. 76/126mm +/-2. Weight of Pole 12.0 Kg approx. (Burial Depth 800 mm)	Ea	7246.00	162.00	7408.00
	[B] Overall Length of 4.0 meter, Average thickness : 6mm, Top/Bottom Outside Dia. 76/143mm +/-2. Weight of Pole 15.4 Kg approx. (Burial Depth 800 mm)	Ea	8899.00	162.00	9061.00
	[C] Overall Length of 5.0 meter, Average thickness : 7mm, Top/Bottom Outside Dia. 76/160mm +/-2. Weight of Pole 21.0 Kg approx. (Burial Depth 800 mm)	Ea	11907.00	162.00	12069.00
	[D] Overall Length of 6.0 meter, Average thickness : 7mm, Top/Bottom Outside Dia. 76/176mm +/-2. Weight of Pole 25.0 Kg approx. (Burial Depth 1000 mm)	Ea	14068.00	191.00	14259.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[E] Overall Length of 7.0 meter, Average thickness : 8mm, Top/Bottom Outside Dia. 76/193mm +/-2.Weight of Pole 30.0 Kg approx. (Burial Depth 1000 mm)	Ea	17246.00	191.00	17437.00
	[F] Overall Length of 8.0 meter, Average thickness : 8mm, Top/Bottom Outside Dia. 76/210mm +/-2.Weight of Pole 47.0 Kg approx. (Burial Depth 1000mm)	Ea	21950.00	191.00	22141.00
	[G] Overall Length of 9.0 meter, Average thickness : 9mm, Top/Bottom Outside Dia.76/228mm +/-2.Weight of Pole 59.0 Kg approx. (Burial Depth 1200mm)	Ea	25551.00	255.00	25806.00
	[H] Overall Length of 10.0 meter, Average thickness : 9mm, Top/Bottom Outside Dia. 76/244mm +/-2. Weight of Pole 64.0 Kg approx. (Burial Depth 1200 mm)	Ea	29111.00	255.00	29366.00
Arm Brackets for FRP Poles manufactured by centrifugal moulding process					
6-1-7 (B)	Providing FRP/GRP arm bracket of having 15° arm with 50 mm OD pipe *5 mm thk,1000mm long from pole centre				
	(A) Single arm bracket	Ea	1865.00	17.00	1882.00
	(B) Double arm bracket	Ea	2373.00	17.00	2390.00
Aluminium Brackets for FRP Poles					
6-1-8	Providing Aluminium arm bracket of having 2 sets of suitable SS304 hardware for fixing the brackets & spread of 1.2 Mtr (Suitable for 89 to 114 mm pole top dia)				
	(A) Single arm bracket	Ea	2195.00	17.00	2212.00
	(B) Double arm bracket	Ea	3399.00	17.00	3416.00
	(C) Triple arm bracket	Ea	4386.00	17.00	4403.00
6-1-9	Providing Aluminium arm bracket of having 2 sets of suitable SS304 hardware for fixing the brackets & spread of 2 Mtr (Suitable for 89 to 114 mm pole top dia)				
	(A) Single arm bracket	Ea	3848.00	17.00	3865.00
	(B) Double arm bracket	Ea	5941.00	17.00	5958.00
	(C) Triple arm bracket	Ea	7691.00	17.00	7708.00
6-1-10	Providing FRP arm bracket of having 2 sets of suitable SS304 hardware for fixing the brackets & spread of 1.2 Mtr(Suitable for 89 to 114 mm pole top dia)	Ea			
	(A) Single arm bracket	Ea	2509.00	17.00	2526.00
	(B) Double arm bracket	Ea	3878.00	17.00	3895.00
	(C) Triple arm bracket	Ea	5242.00	17.00	5259.00
6-1-11	Providing Single arm bracket of FRP having 2 sets of suitable SS304 hardware for fixing the brackets & spread of 2 Mtr(Suitable for 89 to 114 mm pole top dia)				
	(A) Single arm bracket	Ea	4386.00	17.00	4403.00
	(B) Double arm bracket	Ea	6767.00	17.00	6784.00
	(C) Triple arm bracket	Ea	9170.00	17.00	9187.00
6-1-12	Aluminium "J" Type arm bracket of 250 mm radius with 2 sets of SS 304 Hardware	Ea	1462.00	17.00	1479.00
SECTION 6-2 STREETLIGHT POLE BASES					
6-2-1.	Supplying and erecting C.I. pole base Suitable for following size of pole with M.S.door having two hinges welded on M.S.flat 25 x 3 mm which is fitted on C.I. base by bolts welded inside the pole base erected with one coat of Red oxide and two coat of Aluminium paint and covering the gap between pole and pole base with suitable clamp as per SOR drawing or sample.				
	(A) Suitable for 90 mm.dia base of pole	Ea.	2119.00	128.00	2247.00
	(B) Suitable for 114 mm.dia base of pole	Ea.	2543.00	145.00	2688.00
	(C) Suitable for 140 mm.dia base of pole	Ea.	2755.00	170.00	2925.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
6-2-2	Supplying and erecting Pole base suitable for following size of pole fabricated from 4 mm. Thick M.S. sheet with M.S.door having two hinges welded on M.S. flat 25 x 3 mm which is fitted on M.S..base by bolts welded inside the pole base erected with one coat of Red oxide and two coats of Aluminium paint. Outside dimension as per SOR. drawing.				
	(A) Suitable for 90 mm. dia.base of pole	Ea.	2119.00	128.00	2247.00
	(B) Suitable for 114 mm. dia.base of pole	Ea.	2416.00	128.00	2544.00
	(C) Suitable for 140 mm. dia.base of pole	Ea.	2903.00	149.00	3052.00
6-2-3	Providing and fixing pole base cover fabricated from 16 SWG M.S. sheet having adequate size to cover pole base and having bend as per curvature of pole base, making the holes to fix the cover to bolt at one. end and other end shall be welded by the hinges fabricated from M.S. strip as per sample both the hinges shall be welded on M.S.strip which shall be drilled to fix on pole base. the complete assembly shall be fixed on pole base by drilling holes on pole base and painting, by one coat of Red oxide and two coats of aluminium paint.	Ea.	140.00	30.00	170.00
SECTION 6-3 POLE FOUNDATION					
6-3-1.	Providing and erecting C.I./M.S. flange type base plate of 300mm x 300mm x 6mm	Ea.	208.00	30.00	238.00
6-3-2.	Providing and fixing Terminal board of size 5.0 x 127 x 152.4 mm.bakelite sheet with suitable brass studs with nuts, washers and clamps of size 25mm x 3mm suitable for pole painted with one coat of red lead paint.	Ea.	123.00	22.00	145.00
6-3-3.	Providing and erecting cable clamp of 25 mm X 3 mm M.S. flat suitable for fixing 2 Nos.of armoured cable with nuts and bolts.				
	(A) for 114 mm dia. Pole	Ea.	82.00	9.00	91.00
	(B) for 140 mm dia. Pole	Ea.	102.00	9.00	111.00
	(C) for 165 / 195 mm dia. Pole	Ea.	128.00	13.00	141.00
Foundation for Burial type Poles					
6-3-4.	Providing 1:2:4 cement concrete foundation & 70 % PCC from bottom including excavation for the pole of size 45 x 45 x 100 cm. Deep in below ground level with plinth of 45 cm x 45 cm (or 45 cm dia x 45 cm) high upper ground level with necessary curing and finishing in approved manner. (for 4 & 6 mtr pole)	Ea.	631.00	170.00	801.00
6-3-5.	Providing 1:2:4 cement concrete foundation & 70 % PCC from bottom including excavation for the pole of size 60 x 60 x 120 cm. Deep in below ground level with plinth of 45 cm x 45 cm(or 45 cm dia x 45 cm) high upper ground level with necessary curing and finishing in approved manner. (for 7.5 & 8/8.5 mtr pole)	Ea.	1068.00	212.00	1280.00
6-3-6.	Providing 1:2:4 cement concrete foundation & 70 % PCC from bottom including excavation for the pole of size 60 x 60 x 150 cm. Deep in below ground level with plinth of 45 cm x 45 cm(or 45 cm dia x 45 cm) high upper ground level with necessary curing and finishing in approved manner. (for 9 & 10 mtr pole)	Ea.	1424.00	212.00	1636.00
6-3-7.	Providing 1:2:4 cement concrete foundation & 70 % PCC from bottom including excavation for the pole of size 90 x 90 x 180 cm. Deep in below ground level with plinth of 45 cm x 45 cm(or 45 cm dia x 45 cm) high upper level ground cement concrete with necessary curing and finishing in approved manner [above 11 mtr & above poles]	Ea.	1933.00	255.00	2188.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
6-3-8-A	Providing cement concrete. 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 purpose.	Cu.Mtr	4272.00	195.00	4467.00
6-3-8-B	Providing cement concrete.for foundation or for concrete filling in 1:2:4 ratio with 20 to 25 mm stone metal duly plastered with necessary curing for pole muffing or any other purpose.	Cu.Mtr	4882.00	195.00	5077.00
6-3-9.	Excavating hard rock or bituminous road (B.T.) by chiselling or using tool and tackles for preparing pit for poles or earth plates or for laying pipes & clearing the site by removing debris & making site good.	Cu.Mtr	0.00	594.00	594.00
6-3-10.	Excavating hard Murrum or Metal road by chiselling for preparing pit for poles or earth plates or for laying pipes & clearing the site by removing debris & making site good.	Cu.Mtr	0.00	238.00	238.00
6-3-11.	Providing burnt brick masonry with 1:6 cement concrete duly plastered including watering, stacking joint on exposed faces, rocking at joints on exposed faces and watering complete	Cu.Mtr	3560.00	212.00	3772.00
Note :-	For Item No 6.3.9 & 6.3.10 if additional machinery like hammer, driller or JCB used add 10% extra in rate.				
SECTION 6-4 POLE BOXES					
6-4-1.	Supplying and erecting Water tight M.S.Box of size 20 x 15 x 15 cm. to erect suitable kitkat fuse / MCB to be . erected on polished wooden board inside the box with hinged/sliding door with rubber rings and erected on pole with suitable pole clamp, all duly painted with one coat of red oxide and two coats of paints. (Cost of Fuse / MCB shall be taken extra)	Ea.	206.00	26.00	232.00
6-4-2.	Supplying and erecting Fabricating terminal box for street light pole made from 16 SWG M.S. sheet having following size complete with fixing arrangement for terminal board, with necessary hole for wire entry and exit from the box. The box shall be provided with cover and hinges on one side and bolting at other end The box shall be fixed by clamps fabricated from 25mm x 6mm flat.The box shall be painted with one coat of red oxide and two coats of paint having following box size. 330 mm x 260 mm x 140 mm (depth)	Ea.	523.00	34.00	557.00
6-4-3.	Supplying & erecting approved make SMC press moulded composite FRP. loop-in, loop-out approx. 2mm thick box complete with Bakelite connector strip 5way(3P+N+E),DIN rail for mounting mob & hinged doors as per requirement having locking arrangements with mounting clamp with nuts, bolts & washers suitable for erection on pole with cable clamps& earth bolt of following size of box.				
	(A) 300mm x 200mm x 100mm [deep]	Ea.	839.00	51.00	890.00
	(B) 250mm x 200mm x 100mm [deep]	Ea.	467.00	43.00	510.00
	(C)150mm x 125mm x 100mm [deep]	Ea.	429.00	43.00	472.00
	(D) 140mm x 140mm x 100mm [deep]	Ea.	252.00	43.00	295.00
	(E) 200mm x 140mm x 125mm [deep]	Ea.	476.00	43.00	519.00
	(F) 200mm x 180mm x 100mm [deep]	Ea.	495.00	43.00	538.00
	(G) 250mm x 220mm x 135mm [deep]	Ea.	1026.00	85.00	1111.00
	(H) 300mm x 200mm x 135mm [deep]	Ea.	1119.00	85.00	1204.00
	(I) 400mm x 300mm x 190mm [deep]	Ea.	3217.00	170.00	3387.00
	(J) 505mm x 240mm x 160mm [deep]	Ea.	2723.00	153.00	2876.00
	(K) 700mm x 480mm x 210mm [deep]	Ea.	5780.00	339.00	6119.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
6-4-4.	Supplying & erecting approved make street light box comprising CNC Processed robust housing made from single sheet multi folded with high grade powder coating (RAL-7032 Structure finish as Standard) of IP-55 degree of Protection Gasket(PU Gasketing) of following size of Box.				
	(A) 350mm X 200 mm X 150 mm	Ea.	1595.00	51.00	1646.00
	(B) 300mm X 200 mm X 150 mm	Ea.	1436.00	51.00	1487.00
	(C) 200mm X 150 mm X 100 mm	Ea.	776.00	51.00	827.00
6-4-5	Providing & erecting approved make street light / wall mounting junction box compression moulded from SMC (thermoset plastic) vertical sliding cover having locking with square head stud loop in / loop out in built terminal suitable for four core cable, waterproof of I.P. 54 protected with clamp or bolt nut & earth bolt of following size.				
	(A) 200mm x 127mm x 83 mm	Ea	327.00	26.00	353.00
	(B) 250mm x 194mm x 99 mm	Ea	584.00	26.00	610.00
	(C) 327mm x 254mm x 120 mm	Ea	979.00	43.00	1022.00
SECTION 6-5 STREET LIGHT BRACKETS					
6-5-1-a	Supplying and erecting street light pole bracket comprising main B Class MS pipe of 4.2 cm/require outside dia. complete with suitable B Class M.S. sleeve tubing of approx. 45cms.length and suitable for 76.5mm/80mm or require size pole top having sufficient fastners for fixing the brackets and having suitable rise as per site condition as directed and spread of 2 mtr.with suitable welded stiffener reducer and with lock nut complete painted with one coat of Red oxide / PU base primer and two coats of Aluminium / PU paint. Suitable for side entry fitting brackets of following nos of arms.				
	(A) Single Arm bracket 2 Mtr	Ea	670.00	51.00	721.00
	(B) Double Arm Bracket 2 Mtr.	Ea	1043.00	68.00	1111.00
	(C) Triple Arm Bracket 2 Mtr.	Ea	1416.00	85.00	1501.00
	(D) Four Arm bracket 2 Mtr.	Ea	1789.00	128.00	1917.00
6-5-1-b	Supplying and erecting street light pole bracket comprising main B Class GI pipe of 4.2 cm/require outside dia. complete with suitable B Class GI sleeve tubing of approx. 45cms.length and suitable for 76.5mm/80mm or require size pole top having sufficient fastners for fixing the brackets and having suitable rise as per site condition as directed and spread of 2 mtr.with suitable welded stiffener reducer and with lock nut complete painted with one coat of Red oxide / PU base primer and two coats of Aluminium / PU paint. Suitable for side entry fitting brackets of following nos of arms.				
	[a] Single Arm bracket 2 Mtr	Ea	737.00	51.00	788.00
	[B] Double Arm Bracket 2 Mtr.	Ea	1147.00	68.00	1215.00
	[C] Triple Arm Bracket 2 Mtr.	Ea	1557.00	85.00	1642.00
	[D] Four Arm bracket 2 Mtr.	Ea	1967.00	128.00	2095.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
6-5-2-a	Providing and erecting Street Light pole bracket comprising main B Class MS pipe of 4.2 cm/require outside dia. complete with suitable B Class M.S. sleeve tubing of approx. 45cms.length and suitable for 76.5 mm /80mm / required size of pole top having sufficient fasteners for fixing the brackets and having spread of 1.5.mtr. length with 110 deg.with vertical plane & suitable welded stays, reducer and with check nuts complete painted with one coat of Red oxide / PU base primer and two coats of Aluminium / PU paint. paint with following nos of arms.				
	[A] Single Arm Bracket 1.5 Mtr	Ea	577.00	43.00	620.00
	[B] Double Arm Bracket 1.5 Mtr	Ea	856.00	51.00	907.00
	[C] Triple Arm Bracket 1.5 Mtr	Ea	1136.00	68.00	1204.00
	[D] Four Arm Bracket 1.5 Mtr	Ea	1416.00	85.00	1501.00
6-5-2-b	Providing and erecting Street Light pole bracket comprising main B Class GI pipe of 4.2 cm/require outside dia. complete with suitable B Class G.I. sleeve tubing of approx. 45cms.length and suitable for 76.5 mm /80mm / required size of pole top having sufficient fasteners for fixing the brackets and having spread of 1.5.mtr. length with 110 deg.with vertical plane & suitable welded stays, reducer and with check nuts complete painted with one coat of Red oxide / PU base primer and two coats of Aluminium / PU paint. paint with following nos of arms.				
	[A] Single Arm Bracket 1.5 Mtr	Ea	634.00	43.00	677.00
	[B] Double Arm Bracket 1.5 Mtr	Ea	942.00	51.00	993.00
	[C] Triple Arm Bracket 1.5 Mtr	Ea	1250.00	68.00	1318.00
	[D] Four Arm Bracket 1.5 Mtr	Ea	1557.00	85.00	1642.00
6-5-3-a	Providing and erecting street light pole bracket comprising main B Class MS pipe of 4.2 cm/require outside dia. complete with suitable B Class M.S. sleeve tubing of approx. 45cms.length and suitable for 76.5 mm / 80mm. / require size pole top having sufficient fasteners for fixing the brackets and having spread of 1 mtr. length with suitable rise as per site condition & suitable welded stiffener reducer and nipple with check nut complete painted with one coat of Red oxide / PU base primer and two coats of Aluminium / PU paint. paint with following nos of arms.				
	[A] Single Arm bracket 1 Mtr	Ea	513.00	43.00	556.00
	[B] Double Arm Bracket 1 Mtr	Ea	700.00	51.00	751.00
	[C] Three Arm Bracket 1 Mtr	Ea	886.00	60.00	946.00
	[D] Four Arm Bracket 1 Mtr	Ea	1073.00	60.00	1133.00
6-5-3-b	Providing and erecting street light pole bracket comprising main B Class GI pipe of 4.2 cm/require outside dia. complete with suitable B Class G.I sleeve tubing of approx. 45cms.length and suitable for 76.5 mm / 80mm. / require size pole top having sufficient fasteners for fixing the brackets and having spread of 1 mtr. length with suitable rise as per site condition & suitable welded stiffener reducer and nipple with check nut complete painted with one coat of Red oxide / PU base primer and two coats of Aluminium / PU paint. paint with following nos of arms.				
	[A] Single Arm bracket 1 Mtr	Ea	565.00	43.00	608.00
	[B] Double Arm Bracket 1 Mtr	Ea	770.00	51.00	821.00
	[C] Three Arm Bracket 1 Mtr	Ea	975.00	60.00	1035.00
	[D] Four Arm Bracket 1 Mtr	Ea	1180.00	60.00	1240.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
6-5-4-a	Supplying and erecting Street light pole bracket comprising main B Class MS pipe of 4.2 cm/require outside dia. complete with suitable B Class M.S. sleeve tubing of approx. 45cms.length and suitable for 76.5mm/80mm/require size of pole top having nuts and bolts for fixing the brackets and having spread of 0.5 mtr. Length with 110 deg.with vertical plane and suitable welded stiffener reducer and nipple with check nut complete painted with one coat.of Red oxide / PU base primer and two coats of Aluminium / PU paint. paint with following nos of arms.	Ea.			
	[A] Single Arm bracket 0.5 Mtr	Ea	403.00	43.00	446.00
	[B] Double Arm Bracket 0.5 Mtr	Ea	513.00	51.00	564.00
	[C] Three Arm Bracket 0.5 Mtr	Ea	623.00	51.00	674.00
	[D] Four Arm Bracket 0.5 Mtr	Ea	746.00	60.00	806.00
6-5-4-b	Supplying and erecting Street light pole bracket comprising main B Class GI pipe of 4.2 cm/require outside dia. complete with suitable B Class G.I. sleeve tubing of approx. 45cms.length and suitable for 76.5mm/80mm/require size of pole top having nuts and bolts for fixing the brackets and having spread of 0.5 mtr. Length with 110 deg.with vertical plane and suitable welded stiffener reducer and nipple with check nut complete painted with one coat.of Red oxide / PU base primer and two coats of Aluminium / PU paint. paint with following nos of arms.				
	[A] Single Arm bracket 0.5 Mtr	Ea	444.00	43.00	487.00
	[B] Double Arm Bracket 0.5 Mtr	Ea	565.00	51.00	616.00
	[C] Three Arm Bracket 0.5 Mtr	Ea	685.00	51.00	736.00
	[D] Four Arm Bracket 0.5 Mtr	Ea	821.00	60.00	881.00
6-5-5	Supplying and erecting B class Galvanized iron pipe having smooth finished bore of the pipe on both ends erected nuts and bolts along the pole / wall shaping the pipe as per site requirement. Pipe dia as following.				
	(A) 25 mm dia	Mtr.	149.00	30.00	179.00
	(B) 32 mm dia	Mtr.	183.00	30.00	213.00
	(C) 40 mm dia.	Mtr.	217.00	30.00	247.00
	(D) 50 mm dia.	Mtr.	293.00	30.00	323.00
	(E) 65 mm dia.	Mtr.	361.00	30.00	391.00
	(F) 80 mm dia.	Mtr.	471.00	30.00	501.00
6-5-6	Supplying and erecting B class galvanised iron pipe 32 mm outside dia 45 cm long duly welded on 20 cm x 20 cm x 3 mm thick M.S. base plate, erected on wall or corner for mounting street light luminaire with necessary hardware materials duly painted.	Ea	297.00	43.00	340.00
6-5-7	Providing and erecting approved make light control unit suitable to operate on 230V +20% having ON/OFF delay time of 30-50 seconds and having facility for Auto/manual system having two LDR lens to intensity light having capacity of 5A complete erected on section pillar with pipe and stand.	Ea	2145.00	98.00	2243.00
SECTION 6-6 SECTION PILLARS					
6-6-1.	Supplying & erecting IP 55 grade following size section pillar fabricated from joint less M.S. Sheet with angle iron legs made from jointless M.S. Angle with cable clamps to be buried in ground to have appropriate erection to work uniform until erected with cement concrete foundation and 45 cm high bricks work finishing with plaster etc. hinged double door internally supported on both side,				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	with internal and outside looking arrangement with look and keys in duplicate 35 x 35 x 5 mm M.S. Angle of Two Nos. one is welded and other with nut and bolt for erecting Bakelite sheet. Painting the Section Pillar inside and out side with three tank powder coated paint. section pillar roof should be without joint with water leakage proof & tested as per IP 55 test & followed by IS 2147 of 1962				
	(A) 150 X 90 X 75 cm section pillar fabricated from 14 Gauge MS Sheet with angle iron legs 95 cm long made from 40 X 40 X 6 mm thick MS angle.	Ea.	15678.00	848.00	16526.00
	(B) 75 X 60 X 45 cm section pillar fabricated from 16 Gauge MS Sheet with angle iron legs 45 cm long made from 35 X 35 X 5 mm thick MS angle.	Ea.	3390.00	170.00	3560.00
	(C) 60 X 30 X 45 cm section pillar fabricated from 16 Gauge MS Sheet with angle iron legs 45 cm long made from 35 X 35 X 5 mm thick MS angle.	Ea.	1738.00	128.00	1866.00
6-6-2.	Supplying and erecting HYLAM sheet on existing angle iron frame.for following thickness				
	(A) 2mm	sq.mtr	369.00	13.00	382.00
	(B) 4mm	sq.mtr	738.00	26.00	764.00
	(C) 6mm	sq.mtr	1111.00	34.00	1145.00
	(D) 8mm	sq.mtr	1492.00	34.00	1526.00
	(E) 10mm	sq.mtr	1865.00	43.00	1908.00
	(F) 12mm	sq.mtr	2246.00	43.00	2289.00
6-6-3.	Supplying and erecting nuwood 12 mm thick on existing angle iron frame.	Sq.Mtr	238.00	51.00	289.00
6-6-3.(B)	Providing and fixing 19 mm thick commercial plywood / block board in cupboard shutter side top bottom with beading patti, necessary fixtures and fastenings as per instruction by engineer in charge.	Sq.Mtr	495.00	100.00	595.00
6-6-3.(C)	Providing and laying cement concrete 1:2:4 (1- Cement : 2- Coarse sand : 4- graded stone aggregates 20 mm nominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	cu.m	3412.00	250.00	3662.00
6-6-4.	Painting of street light pole having post top lantern complete with primer with two coats of Aluminium paint.	Ea.	170.00	43.00	213.00
6-6-5.	Painting of street light pole with bracket complete with two coats of Aluminium paint for following size of pole.				
	(A) up to 4 mtr	Ea.	170.00	43.00	213.00
	(B) up to 6 mtr.	Ea.	212.00	51.00	263.00
	(C) up to 9 mtr	Ea.	255.00	77.00	332.00
	(D) up to 10 to 13 mtr	Ea.	441.00	111.00	552.00
SECTION 6-7 TIME SWITCHES					
6-7-1	Supplying & erecting approved make time switch with single pole air break contacts suitable for 230 V.15/16A.complete with self starting motor driven clock 'ON' & 'OFF' automatic arrangement at any predetermined time during each 24 hours,With nickel cadmium rechargeable battery backup erected as directed.	Ea.	2280.00	51.00	2331.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
6-7-2	Supplying & erecting approved make Digital time switch having lithium cell 6 years operative and operate battery backup 1 channel day clock with 14 memory programme, suitable to operate on 240V + 5%, 16A with, floating contacts Minimum switching setup time 1 minimum & LCD display. Also comprised permanent ON/OFF switching. Programming switches & housed in fire proof thermoplastic enclosure & transparent cover erected as required with necessary connection erected as directed.	Ea.	3094.00	43.00	3137.00
6-7-3	Supplying and erecting approved make Segment time switch suitable for 230V+10%16A. floating contacts with 24 hour dial having 15/30 min. segments with early manual override switching for on & off without influencing the program sequence with quartz time switch With power reserve, housed in fire proof thermoplastic enclosure & transparent cover terminal covers erected as required wire necessary connection erected as directed.	Ea.	2153.00	51.00	2204.00
6-7-4	Providing and erecting approved make light control unit suitable to operate on 230V +20% having ON/OFF delay time of 30-50 seconds and having facility for Auto/manual system having two LDR lens to intensity light having capacity of 5A complete erected on section pillar with pipe and stand.	Ea.	2145.00	98.00	2243.00
6-7-5	Supplying & erecting power contactor ,AC3 duty for time switch complete erected as per direction Cat III				
	(A) 2 Pole 250V 12 Amp.	Ea	763.00	26.00	789.00
	(B) 2 pole 250V 32 Amp.	Ea	1839.00	26.00	1865.00
	(C) 4 pole 440V 16 Amp.	Ea	823.00	26.00	849.00
	(D) 4 pole 440V 40 Amp.	Ea	2729.00	26.00	2755.00
6-7-6	Supplying & erecting approved make IP 55 grade Company fabricated Timer Panel of following capacity for switch On-Off street lights on time scheduling basis made from 16G CRCA sheet duly epoxy power painted inside and outside with hinged doors and locking arrangement consisting of suitable size of 4 Pole MCB and 4 pole contactor (cat-III)with analog time switch, auto manual switch of same make and suitable input and output Bakelite terminals and with door earthing approved by Engineer in charge				
	(A) 32 Amp	Ea	12065.00	212.00	12277.00
	(B) 40 Amp	Ea	13006.00	212.00	13218.00
	(C) 63 Amp	Ea	16636.00	255.00	16891.00
6-8 HIGH MAST POLE					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
6-8-1.	Supplying, erecting, testing, commissioning approved make M.S. Polygonal High Mast Pole having following general Specification. (a) Polygonal Section fabricated from M.S. Plate confirms BSEN 10025 & Hot deep galvanized minimum 65/86 micron (as per IS 2629 /1985) Lantern carriage with ring and rubber lines for erection of luminaries of suitable site. (b) Maximum telescopic section not more than four (c) Double drum gear pipe motorized winch with 6mm dia S.S. Rod (For 16 mtr and above size) (d) Approved make L.E.D. aviation light = 1 No. Lightning arrestor = 1 No. with necessary wiring of 2.5 sq.mm 5 core ISI copper cable Unarmoured. (e) Bottom most section suitable for mounting reversible motor and switchgears having door not more than 1400mm x 300mm with waterproof gasket & hinges & locking arrangement. (f) Pole structure comprises suitable size of reversible motor, cable and necessary switchgear with control panel.				
	(g) bottom section shall have suitable size of thickness supports ribs foundation bolts nuts etc. (h) Item not comprises the cost of lanterns. (i) Necessary Cement Concrete foundation as per IS including testing & commissioning of the entire structure for following size of High Mast poles				
	[1] High Mast 12 Mtr. TOP A/F 105 mm, BOTTOM A/F 360mm, No. of Sec. No. - 1, Bottom Thickness - 3 mm, Size of Base Plate - Dia 520 mm x 20 mm thick, Foundation Bolt Size M24 x 850 mm, Qty - 6 Nos., Suitable for mounting Fitting of Light - 6 Nos.	Ea.	124323.00	15891.00	140214.00
	[2] High Mast 14 Mtr. TOP A/F 105 Mm, BOTTOM A/F 400 Mm, No. of Sec. No. - 1, Bottom Thickness - 3 mm, Size Base Plate - dia.520 mm x 16 mm thick, Foundation Bolt Size M24 x 850 mm, Qty - 8 Nos., Suitable for mounting Fitting of Light - 6 Nos.	Ea.	130763.00	18434.00	149197.00
	[3] High Mast 16 Mtr. TOP A/F 150 mm, BOTTOM A/F 450 mm, No. of Sec. No. - 2, Bottom Thickness - 4 mm, Top Sec. 3 mm, Size of Base Plate - dia.560 mm x 20 mm thick, Foundation Bolt Size M24 x 880 mm, Qty - 8 Nos., Suitable for mounting Fitting of Light - 8 Nos.	Ea.	151458.00	19917.00	171375.00
	[4] High Mast 16 Mtr. TOP A/F 150 Mm, BOTTOM A/F 400 Mm, No. of Sec. No. - 2, Bottom Thickness - 4 mm, Top Sec. - 3 mm, Size Base Plate - dia.630 mm x 20 mm thick, Foundation Bolt Size M24 x 870 mm, Qty - 12 Nos., Suitable for mounting Fitting of Light - 10 Nos.	Ea.	162695.00	19917.00	182612.00
	[5] High Mast 18 Mtr. TOP A/F 150 Mm, BOTTOM A/F 450 Mm, No. of Sec. No. - 2, Bottom Thickness - 4 mm, Top Sec. - 3 mm Size Base Plate - dia. 630 mm x 16 mm thick, Foundation Bolt Size M24 x 880 mm, Qty - 10 Nos., Suitable for mounting Fitting of Light - 10 Nos.	Ea.	170585.00	20764.00	191349.00
	[6] High Mast 18 Mtr. TOP A/F 150 Mm, BOTTOM A/F 400 Mm, No. of Sec. No. - 2, Bottom Thickness - 4 mm, Top Sec. - 3 mm, Size Base Plate - dia. 580 mm x 20 mm thick, Foundation Bolt Size M24 x 870 mm, Qty - 12 Nos., Suitable for mounting Fitting of Light - 12 Nos.	Ea.	175725.00	20764.00	196489.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[7] High Mast 20 Mtr. TOP A/F 150 Mm, BOTTOM A/F 400 Mm, No. of Sec. No. - 2, Bottom Thickness - 4 mm, Top Sec. - 3 mm, Size Base Plate -dia.580 mm x 20 mm thick, Foundation Bolt Size M27 x 850mm , Qty - 10 Nos., Suitable for mounting Fitting of Light - 12 Nos.	Ea.	181479.00	23836.00	205315.00
	[8] High Mast 20 Mtr. TOP A/F 150 Mm, BOTTOM A/F 450 Mm, No. of Sec. No. - 2, Bottom Thickness - 4 mm, Top Sec. - 3 mm, Size Base Plate - dia.580 mm x 20 mm thick, Foundation Bolt Size M13 x 1000mm, Qty - 10 Nos., Suitable for mounting Fitting of Light - 12 Nos.	Ea.	183166.00	23836.00	207002.00
	[9] High Mast 25 Mtr. TOP A/F 170 Mm, BOTTOM A/F 450 Mm, No. of Sec. No. - 3, Bottom Thickness - 4 mm, Middle Base Sec.mm - 3, Top Sec. - 3 mm, Size Base Plate - dia. 680 mm x 35 mm thick, Foundation Bolt Size M30 x 1000 mm, Qty - 12 Nos., Suitable for mounting Fitting of Light - 12 Nos.	Ea.	236289.00	30510.00	266799.00
	[10] High Mast 25 Mtr. TOP A/F 170 Mm, BOTTOM A/F 540 Mm, No. of Sec. No. - 3, Bottom Thickness - 4 mm, Middle Base Sec.mm - 4, Top Sec. - 3 mm, Size Base Plate - dia. 760 mm x 25 mm thick, Foundation Bolt Size M36 x 1000 mm, Qty - 12 Nos., Suitable for mounting Fitting of Light - 16 Nos.	Ea.	254306.00	30510.00	284816.00
	[11] High Mast 25 Mtr. TOP A/F 170 Mm, BOTTOM A/F 450 Mm, No. of Sec. No. - 2, Bottom Thickness - 4 mm, Top Sec. - 3 mm, Size Base Plate -dia. 680 mm x 35 mm thick, Foundation Bolt Size M30 x 1000 mm, Qty - 12 Nos., Suitable for mounting Fitting of Light - 12 Nos.	Ea.	236289.00	26273.00	262562.00
	[12] High Mast 25 Mtr. TOP A/F 170 Mm, BOTTOM A/F 540 Mm, No. of Sec. No. - 2, Bottom Thickness - 5 mm, Top Sec. - 3 mm, Size Base Plate - dia.760 mm x 25 mm thick, Foundation Bolt Size M36 x 1000 mm, Qty - 12 Nos., Fitting of Light - 16 Nos.	Ea.	248475.00	26273.00	274748.00

CHAPTER - VII ELV system					
SECTION 7-1 EPABX SYSTEMS					
	Analog EPABX system	Unit	Cost of Materials	Cost of Labour	Total
7-1-1.	Supplying, erecting, commissioning and testing analog EPABX CMOS microprocessor based system having common features With remote programming & remote dialing having following other common features. Auto Call Disconnecter- (Incoming - Local- STD) with programmable timing- External Call forward with DOSA- Walk in Class of service & trunk reservation- Boss ring & call back on No Reply last caller recall CLI- Hot Line with Delay & with No.- Unsupervised Conference- Serial DISA (DISA with option to dial another No. if Extn. is No Reply)- Programming Flexibility of all features related to timer(41 Timer)-10 Different group of out going call restriction like 95, 97, 98 etc.Having following capacity.				
	(A) 2 incoming junction line & 6 extensions.	Ea.	6238.00	488.00	6726.00
	(B) 3 incoming junction line & 8 extensions.	Ea.	7115.00	585.00	7700.00
	(C) 4 incoming junction line & 12 extensions.	Ea.	11500.00	683.00	12183.00
	Digital EPABX system				
7-1-2.	SITC of Digital / PCM / TDM EPABX System having SMT design, system with flexible universal slots. Inbuilt Auto attendant facility, Minimum 15 Nos. conference, Analog extension line, Calling GSM, E&M line, PRI / EI & VOIP program me through Analog telephone digital key from Ethernet, public address cord, shall have unrestricted simultaneous dialing facility, QSIG protocol on PRI, 95 / STD / ISD / Local-Locking, Class of Service, Quick Dial-Single Digit dialing of any two external number, Once only ring device, Chairman / Secretary - Do not disturb Facility, Power Down Mode, Hot Line, Hot Outward Dialing, Day Night Mode, Auto Call Back, Barge-in, Call Pick Up & Call Transfer, Call transfer while Ringing with Voice Guide System, (DISA), Caller ID (CLI), CLI Base ECF, CLI Base routing Internet Ready Port, External Music Port, Call Budgeting, Call Most Calculation (ASMDR), DID Direct Inverse Dialing, External Music Input, Fax Homing, Global Directory Printing with following capacities [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]				
	[A] No of Extension 16 , No of Junctions 6, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 48, Operators Console - 01 Compatible : ISDN	Ea.	41089.00	3860.00	44949.00
	[B] No of Extension 24 , No of Junctions 9, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 96, Operators Console - 01 Compatible : ISDN	Ea.	46568.00	4363.00	50931.00
	[C] No of Extension 48 , No of Junctions 9, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 128, Operators Console - 01 Compatible : ISDN	Ea.	70273.00	6041.00	76314.00
	[D] No of Extension 64 , No of Junctions 12, 8 Port IP Resource in-built, 4 Port Web base Video Conferencing, No of expandable ports : 240, Operators Console - 01 Compatible : ISDN and Networking	Ea.	99259.00	9398.00	108657.00
	[E] No of Extension 128 , No of Junctions 24, No of expandable ports : 512, Operators Console - 01 Compatible : ISDN and Networking	Ea.	158334.00	14544.00	172878.00

7-1-2(A)	Providing and erecting add on Digital line card suitable for existing system of following ports [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]				
	(a) 8 port	Ea.	9369.00	140.00	9509.00
	(b) 16 port	Ea.	13256.00	168.00	13424.00
7-1-2 (B)	Providing and erecting add on Digital PRI T1E1 single card suitable for existing system of following ports suitable for 30 channel [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	19577.00	560.00	20137.00
7-1-3	Providing and erecting Standard Push button telephone (DTMF) Phones [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	291.00	17.00	308.00
7-1-3(A)	Providing and erecting Digital key phone (12-16 direct key) [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3860.00	56.00	3916.00
7-1-4	Providing and erecting IP Phone with display with all IP system supported [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	5314.00	280.00	5594.00
7-1-5	Providing and erecting Small EPABX System with In Built 4 Port Voice Mail [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.			
	[A] No. Extension - 12 , No. of Junction -4 , No. of expandable ports -24, Operators Console -01 Compatible - ISDN	Ea.	51100.00	4867.00	55967.00
	[B] No. Extension - 16 , No. of Junction -8 , No. of expandable ports -64 , Operators Console -01 Compatible - ISDN	Ea.	65262.00	6153.00	71415.00
	[C] No. Extension -24 , No. of Junction -8 , No. of expandable ports -96 , Operators Console -01 Compatible - ISDN	Ea.	70693.00	6713.00	77406.00
	[D] No. Extension - 48 , No. of Junction -8 , No. of expandable ports -125 , Operators Console -01 Compatible - ISDN	Ea.	90456.00	8391.00	98847.00
	[E] No. Extension - 64 , No. of Junction -16 , No. of expandable ports -256 , Operators Console -01 Compatible - ISDN & networking	Ea.	111477.00	10069.00	121546.00
	[F] No. Extension - 128 , No. of Junction -24 , No. of expandable ports -512 , Operators Console -01 Compatible - ISDN & Networking	Ea.	153686.00	14544.00	168230.00
7-1-6	Supplying & erecting approved make plan instrument having One junction line & One extension (Plan 1 + 1) with Chairman /secretary facilities with extension CLI & speaker phone instruments . [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2350.00	168.00	2518.00
7-1-7	Supplying & erecting push button type telephone instrument having speaker phone Caller ID & hands free dialing system & 30 memories with display system Single line [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	543.00	17.00	560.00
7-1-7(a)	Supplying & erecting push button type telephone instrument having speaker phone Caller ID & speaker phone with one touch memory (min.6 nos.)& 99 memories with display system Single line [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	834.00	56.00	890.00

7-1-8	Supplying & erecting Single line push button type Cord Less telephone instrument. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2373.00	85.00	2458.00
7-1-9.	Supplying & erecting Single line push button type Two way Cord Less telephone instrument Speaker Phone having feather light key pad 30 days standby battery life, hands free speaker phone, 19 station speed dialler, inter com with 2 way paging & lock key one touch dialler. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	5255.00	255.00	5510.00
SECTION 7-2 / CONFERENCE SOUND SYSTEM					
7-2-1.	Providing & erecting, programming, testing of chairman unit microphone with flexible stem of 480 mm in length and light ring built in loud speaker ,two head phone socket ,attractive design ,priority button for chairman microphone,built in volume control for head phones,chime tone facility to precede chairman priority calls,microphone on/off button,red indicates for microphone is active,frequency response -400Hz to 10kHz,nominal acoustic input -85 dB SPL [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	5678.00	255.00	5933.00
7-2-2.	Providing & erecting, programming, testing of Delegate unit microphone with flexible stem of 480 mm in length and light ring built in loud speaker ,two head phone socket ,attractive design ,built in volume control for head phones,chime tone facility to precede chairman priority calls,microphone on/off button,red indicates for microphone is active,frequency response -400Hz to 10kHz,nominal acoustic input -85 dB SPL [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	5255.00	255.00	5510.00
7-2-3	Supplying & erecting dual channel amplifier ,power handling capacity of 180 watt ,four micro phone inputs with independent level control ,built in FM tuner,with preset memories,USB drive & SD card for MP3 playback ,100v /telephone input with priority and VOX,frequency response-80 Hz to 18k Hz Philips / /distortion less than 1% @ rated power up to 50 units [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	10509.00	509.00	11018.00
7-2-4	Supplying and erecting ceiling speaker with rated power of 30 watt/power tapping 30/15/7.5 watt available,opening angle 180 degree H * 77 degree V ,sound pressure level 88 dB ,frequency response of 70Hz to 20KHz [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2289.00	255.00	2544.00
7-2-5	Supplying and erecting wall mount speaker with rated power of 30 watt/power tapping 30/15/7.5 watt available,opening angle 180 degree H * 77 degree V ,sound pressure level 88 dB ,frequency response of 70Hz to 20KHz [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2289.00	255.00	2544.00

7-2-6	Providing and erecting cordless microphone with UHF Diversity handheld wireless microphone/caller wireless complete with receiver and transmitter unit, Cardioid, polar pattern, dynamic microphone, LCD display for battery and frequency status and information, 32 preset channels, with compatible groups of 8 channels, 14 hrs. battery life, frequency response 80Hz to 18KHz, RF sensitivity <1.0 Uv, image rejection > 55 dB, dynamic range >95 dB and receiver having 32 channels, S/N ratio >100 dBA, Dynamic range >95 dB, distortion <1% [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	4746.00	339.00	5085.00
7-2-7	Supplying & erecting control Amplifier comprising Two nos. MIC volume control, One Aux. Volume control BASS & TREBLE control, Master Volume Control, Line Level Control, LED Array, input jack, selector switch, PREAMP / REEK output to facilitate recording. PA Amplifier section operating on AC 220- 240V or 12 V DC, with power output 70W RMS max. & input of 3 X MIC 0.6mv / 4.7 K.Ohms & 1 x Aux. 50mv / 47 K.Ohms with frequency response 90-16000 Hz with two 7 pin line connectors & capable up to 50 conference units. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	7289.00	170.00	7459.00
SECTION 7-3 SOUND SYSTEM EQUIPMENTS					
AMPLIFIERS					
7-3-1.	Supplying & erecting Amplifier having following specification: Power Output : 65 W (RMS) (90 w Max.) Inputs : 4 Mics & 1 Aux frequency Response : 65-13000 Hz+ 3db Tone Controls : Cut type Speaker Matching : 4-8-16 ohms 100 V line The amplifier suitable to operate 240V A.C. or 12volt D.C. (Battery) with automatic changeover from AC to Battery operation, duly protected by wrong Battery Polarity. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea	4746.00	85.00	4831.00
7-3-2.	Supplying & erecting Amplifier having following specification: Power Output : 100 W (RMS):(130 W Max.) inputs : 5 Mics & 2 Aux. frequency Response : 50-15000 Hz+3db Tone Controls : Cut & Boost type Speaker Matching : 4-8-ohms 70- 100 V line LED Meter : 5 LED Array. The amplifier suitable to operate 240V A.C. & 24 volt D.C. (Battery) with automatic changeover from AC to Battery operation, duly protected by wrong Battery Polarity connection. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	6060.00	128.00	6188.00

7-3-3.	Supplying & erecting Amplifier having following specification: Power Output :250W (RMS) (300W Max.) inputs : 6 Misc. & 2 Aux. frequency Response :50-1500HZ 13db Tone Controls :Cut & Boost type LED Meter :5 LED Arrays The amplifier suitable to operate 240V A.C.& 24volt D.C. (Battery) with automatic changeover from AC to Battery operation, duly protected by wrong Battery Polarity connections. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea	11017.00	170.00	11187.00
7-3-4.	Supplying & erecting Booster Amplifier having power output of 250W (RMS.), suitable to obtain combined power output of two, with 6 mike inputs & suitable to be used independently as a 250watt amplifier in combination with mike & mixer. The booster Amplifier shall be without mike & Aux. input channels, The system shall be suitable to operate on 240V. A.C. & 24 Volts D.C. Battery. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	9407.00	170.00	9577.00
SECTION 7-4 MIXERS/MIXING CONSOLES					
7-4-1.	Supplying & erecting Mixing Console having channels, Audio mixer with. Echo facility for live performance, Auditorium & stadiums, having following features & facilities. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]				
	(a)input Channels :- Each channel has separate 6.25mm size balanced phone jack for mike & line for balanced & unbalanced signals.				
	(b)Individual gain control for sating optimum level for minimum noise.				
	(c)BASS, MID & TREBLE ' controls Separately for each input channel.				
	(d)ECHO control for each channel				
	(e)PAN control for echo channel for left or right output				
	(f) AUX Control : To control , level of the channel in final mix to AUX sound output				
	(g)Channel ON/OFF switch				
	(h)ECHO Section :- ECHO, reverb & Chorus effect can be added to all input channel by different setting of Delay, Reverb & Level control.				
	(i)Tape section				
	(j)Aux. send & return For sending Pre-feeder output of channel for monitoring or adding a special effect unit.				
	(k)Mono / Stereo output controls				
	(L)Master faders to control over left & right output				
	(m) Head phone output for monitoring purpose.				
	Technical specification				
	(a)Power Requirement -AC220-240V 50 Hz DC 24 Volts				
	(b)MIC Output Impedance/gain -2 K Ohms/ 62 dB				
	(c)Line Output Balance/42 dB — 20 K ohms				

	(d) Impedance / Gain :- 10Kohms unbalance / 42 dB				
	(e) frequency Response - 30 Hz- 20 KHz L / R Line Output (+ 0, -1 dB)				
	(f) Equalization Bass/ - + / - 12 dB at 100Hz Mid / Treble 2 KHz / 10 KHz				
	(g) Outputs, Line Output Line Output Low : 10 dB / -2 dBm Line Output High : 0 dBm / +17 dBm (775 mv / 5.5 V)				
	(h) S/N ratio Line Output Level : > 70 dB (0 dB, 0.775V)				
	The Console shall be mounted on standard Rack, The channel of following numbers.				
	(A) 14 Channel Audio Mixer with ECHO	Ea.	17780.00	424.00	18204.00
	(B) 9 Channel Audio Mixer with ECHO	Ea.	11865.00	424.00	12289.00
7-4-2.	Supplying & erecting four channel Echo Mixer Pre-amplifier with following specification. (i) Suitable to operate on 240V.A.C. & 12 V D.C. Battery supply (ii) B.B.D. Delay system ECHO facility on all inputs through ECHO volume, Repeat & Delay system. (iii) Peak LED for setting optimum distortion free input levels (iv) Two outputs, variable for line & fixed for recording (v) Compatible with Audio Mixing consoles. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3348.00	212.00	3560.00
SECTION 7-5 SPEAKER					
7-5-1.	Supplying &, Erecting speaker system comprising 50W handling capacity with frequency response of 55 -200,00Hz & 16 Ohms impedance with high efficiency 2Nos. of 8 inch full range speakers housed in acoustically suspended enclosure. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1907.00	26.00	1933.00
7-5-2.	Supplying and erecting Weather & Dust resistant sound column with Aluminium case & Aluminium mesh grille with foam layer under grill, rotary-switch for selecting power taps / impedance having frequency response 150-20000 Hz with following specifications . [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]				
	(a) With 4 speakers, capacity of power handling 45W (MAX) & 30 W RMS , each speaker have impedance of respectively 300 ohms / 30 W, 500ohms/20W, I -K.ohms/10 W, 2K. ohms / 5W.	Ea.	1950.00	85.00	2035.00
	(b) With 2 speakers having power handling capacity of 23W(MAX) & 15 W (RMS) , each speaker have impedance of respectively 670 ohms/ 15W, 1 K.ohms/ 10W, 2K.ohms / 5W & 4 K. ohms / 2.5W.	Ea.	1314.00	43.00	1357.00
7-5-3.	Supplying & erecting recess wall mounting speaker with 5W rated input power 3.3 K. Ohms / 3W impedance, 100 - 10000 Hz frequency response with 6 inch dia. cone type 8 ohms speakers duly fitted in ABS plastic cabinet of colour match with wall or ceiling of following size. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]				
	(a) Round Shaped, 230mm dia. Speaker	Ea.	373.00	26.00	399.00

	(b) Square shaped 260 x 260mm size speaker	Ea.	560.00	26.00	586.00
SECTION 7-6 MICROPHONES					
7-6-1.	Supplying microphones stands with sturdy mechanism, treble free movement & positioning of microphones, free from rust with superior quality of chrome plating with following size. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]				
	(a) Fixed height of 13 Cm.with base dia.12 CMS	Ea	119.00	0.00	119.00
	(b) Fixed height 35 cm & extendable up to 53 cm, with round base of dia. 16 cms.	Ea	255.00	0.00	255.00
	(c) Fixed height 91 cms. & extendable up to 62 cms. with round base of dia. 23 cms.	Ea	441.00	0.00	441.00
7-6-2.	Supplying, Installing & testing approved make highly sensitive microphone capable to pick up weak sound from longer distance & wider area suitable for stage shows, group singing with frequency response 50 - 16000 Hz. Having sensitivity of 1.6MV / Pa & impedance 250 ohms (Lo -Z), Supplied with quick detachable holder & 10 mtr. twin core cable & 3 pin XLR connector. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2628.00	85.00	2713.00
7-6-3.	Supplying , installing & testing approved make Microphone for Speech, Music, & Close to lip singing with inbuilt protection against breath & wind noise with capability to capture sound from long distance & wide area with frequency response 50 - 16000 Hz, having sensitivity 1.8mv / Pa & impedance 430 ohms(Lo -Z) supplied with quick detachable holder, 6 Mtr long. Twin core cable & 3 pin XLR connector. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2543.00	85.00	2628.00
7-6-4.	Supplying, installing and testing approved make microphone for All purpose, with frequency response of 100 - 11000 Hz, having sensitivity 2.2mv / Pa & impedance 500 Ohms (LO- Z) supplied with quick detachable holder, 6 mtr twin core cable & 3 pin XLR connector. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1195.00	77.00	1272.00
7-6-5.	Supplying, erecting & testing Approved make Microphone for announcement, speech & general P.A. application with frequency response of 150 - 10000 Hz having sensitivity 2mv/Pa, & impedance 600 Ohms supplied with quick detachable holder, 6 mtr twin core cable & PCIM / MCIF connector. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	467.00	43.00	510.00
7-6-6.	Supplying & testing approved make miniature Omni directional electrets condenser Tie Pin microphone with wide angle pickup having frequency response of 100 - 16000 Hz having sensitivity 5mv / Pa & impedance 1000 Ohms supplied with tie pin / clip, 6 mtr. long soft flexible microphone cable & 1.5v mercury battery. [[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	534.00	60.00	594.00

7-6-7.	Supplying & testing wireless microphone system for 92.5 MHz FM operation With effective range 200 feet with microphone having facility for frequency adjustment & receiver with LED indicator Telescopic antenna with battery cells.[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1806.00	60.00	1866.00
SECTION 7-7 SIRENS					
7-7-1.(A)	Supplying Electrically operated siren on single phase 220-250V AC 50HZ supply , RPM 2800,Horizon/verticle single mount having sound output level more than 100DB with IP 55 protection . Diametrical audible range of (i)5km	Ea.	69982.00	339.00	70321.00
7-7-1.(B)	Supplying Electrically operated siren on Three phase 400-440V AC 50HZ supply , RPM not less than 2800,Horizon/verticle Double mount having sound output level more than 100DB with IP 55 protection . Diametrical audible range of (i)5km	Ea.	78716.00	339.00	79055.00
7-7-2.	Providing cement concrete foundation & . with plastering for horizontal siren motor mounting stand of size 60 x 60 x 25 cms. With foundation nuts & bolts of required size, to be fixed at 4 places with each plate of tower, with necessary hard rubber sheet packing 1.2cms. thick.	Ea.	1017.00	297.00	1314.00
7-7-3.	Providing Cement Concrete Foundation with plastering for vertical Siren motor mounting stand of size 150cms. x 150 cms.x 25cm (H) with foundation bolts to be fixed with the plate of tower with necessary hard rubber sheet packing 1.2 cms. thick.	Ea.	1738.00	297.00	2035.00
7-7-4.	Providing & erecting fabricated M.S. angle stand tower for Horizontal siren having height 60/120 cms. made up of 4 Nos. of M.S.Angles of 50mm x 50mm x 5mm & M.S. strips connecting neighbouring vertical supports. The Top stand for mounting siren to be made from 40cms x 40cms x 6mm thick M.S. plates duly welded & painted.				
	(i) for 60 cms. Height	Ea.	2289.00	255.00	2544.00
	(ii) for 120 cms. height	Ea.	2543.00	424.00	2967.00
7-7-5.	Providing & erecting fabricated MS angle stand tower for vertical siren having height 2.5 mtr made up of 4 Nos. of MS angles of 50 mm x 50 mm x 5 mm & M.S. strips connecting neighbouring vertical supports. The top of stand for mounting siren to be made from 60cms x 60 cms x 6 mm thick M.S. plates duly welded & painted with one coat of red oxide and two coats of enamelled paint.	Ea.	5424.00	1272.00	6696.00
7-7-6.	Providing & erecting roof type 16 G.M.S. sheet cover for protection of horizontal siren of following size fabricated from M.S. angle having size 25 mm x 25 mm x 5mm & roof having control height 0.3mtr & slope on both side made from 16G.M.S. sheet. The Angle iron four legs fixed with foundation with base plate & foundation bolts fixed on terrace with cement concrete foundation on terrace duly painted with one coat of red oxide and two coats of enamelled paint.				
	(i) Size 1.2 mtr. (D) x 1.2 mtr. (W) x 1 mtr (H)	Ea.	3729.00	339.00	4068.00
	(ii) Size 1.2 mtr. (D) x 1.2 mtr. (W) x 1.60 mtr (H)	Ea.	4577.00	509.00	5086.00

7-7-7.	Providing & erecting M.S. Protection roof stand having 3.3 mtr. height made from M.S. angle iron section of 35 mm x35 mm x5 mm with foundation on each six legs. 6 Nos. legs are supported by 25 mm x 25 mm x 5 mm cross M.S. angles with each other rigidly fixed with nuts, bolts also fixed horizontally on siren tower. The main roof & cap made from M.S. sheet of 14 G(2.00 mm) duly welded with standing angles as per drawing. The necessary holes in the top plates of the main roof shell be provided. The whole structure duly painted with one coat of red oxide and two coats of enamelled paint (as per Drawing.)	Ea.	8178.00	128.00	8306.00
7-7-8	providing and erecting Fully Automatic Emergency Light working on 220/250 Volts 50 C/s. AC supply complete with BATTERY of 6 volts, 18 watts Lamps Magnetic relay & Battery charging circuit, and extra output socket, to provide sufficient light continuously for about 4 hours including lamps Emergency Light immediately comes to on by providing bright light when main electric supply fails suddenly. And it is all automatic, controlled by a magnetic relay. It is portable too, can be placed at any convenient point.				
	(b) bulb/led emergency light		1102.00	17.00	1119.00
	(a) tube emergency light 2feet,20watt ,10AH		2119.00	17.00	2136.00
7-7-9	Providing, erecting & fabricating the M.S. Mesh Siren cover for siren made up from M.S. angles having size 25 mm x.25 mm x 3mm in duty welded with M.S. wire mesh with necessary supports, cover should be painted with one coat of red oxide and two coats of enamelled Paint.				
	(A) For Horizontal Siren	Ea.	467.00	43.00	510.00
	(B) For Vertical Siren	Ea.	585.00	51.00	636.00
SECTION 7-8 REPAIRS TO SIRENS					
7-8-1.	Replacing Aluminium Cast with slotted fins of inner blower & Outer case for surrounding blowers having suitable diameter to fix in existing base of 5 HP siren complete with necessary bolts, nuts & refixing the same.	Ea.	1865.00	170.00	2035.00
7-8-2.	Rewinding, varnishing, backing of siren motor 5HP , 2800 RPM, 44OV. A.C. complete including testing for the original speed.	Ea.	1568.00	128.00	1696.00
7-8-3.	Replacing & fixing superior quality metallistic anti-vibration rubber packing of 1.2 cms. Thick for, mounting of siren.size 200 x 200 mm	Ea.	280.00	17.00	297.00
7-8-4.	Replacing anti-vibration rubber packing of 1.2 cms. thick for all four legs of mounting stand base late. size 200 x200 mm	Ea.	187.00	17.00	204.00
7-8-5.	Replacing the existing unserviceable worn out set of bearings by new, bearings for heavy duty siren motor.	Ea.	433.00	34.00	467.00
7-8-6.	Painting of Siren motor, blower, siren cover,& stand with foundation plates, Core mesh guard by one coat of red oxide and two coats of enamelled paint.	Job	0.00	1314.00	1314.00

7-8-7.	Removing the 5 HP siren motor from the existing site with fan blower mounted on the same shaft, from stand, by removing the protective shade & lowering the entire unit with necessary mechanism, & lifted to ground floor loading & unloading with transportation to workshop for repairing with all safety measures required.	Job	0.00	467.00	467.00
7-8-8.	Lifting the 5 H.P. siren motor with Fan blower with necessary mechanism , from ground floor to terrace of the building, re-erecting the same on stand with connection.	Job	0.00	339.00	339.00
7-8-9.	Complete overhauling & Servicing the siren with replacing old rusted worn out foundation, nuts, bolts.	Job	0.00	280.00	280.00
SECTION 7.9 MISC. ELECTRICAL APPLIANCES					
7-9-1	Providing & erecting approved make Fingerprint and card based Premium Door Controller with LCD and Keypad having following features. (A) Optical Fingerprint and Card based Reader (Card personality Module not included) (B) Dot-Matrix LCD and Touch sense Keypad (C) Built-In interfaces like door lock, door sense, exit Reader, Exit switch, Ethernet RS485, Aux Input & Aux Output Port (D) 5000 Events, Access Control, Time Attendance, Tamper Detection (E) 4 LEDS and Buzzer	Ea	20924.00	1992.00	22916.00
7-9-2	Providing & erecting approved make Card Reader having following features. [A] Wiegand / RS232 Interface (B) Power supply from COSEC Door controller or through Separate Adaptor (C) Compatible with any COSEC Door controllers (D) 4 LEDs (Status, Alarm, Allowed and Denied) and Buzzer (E) Tamper Detection	Ea	2941.00	255.00	3196.00
7-9-3	Providing & erecting approved make Card Personality Module (CPM) having following features (A) EM proximity Card Reader Module [Low frequency] (B) Compatible with any COSEC Door Controllers and COSEC Reader CA (C) Supports EM Proximity Card	Ea	1306.00	119.00	1425.00
7-9-4	Providing & erecting approved make Panel Controller for Multiple Door Controllers having following feature (A) Controls up to 16 Door Conditioners (B) Ethernet RS485, USB, Aux Input and Aux Output Port (C) 10000 Users Capacity and 100000 Events Storage (D) 32-bit processor, 32 MB RAM and 32MB Flash (E) Compact and Elegant Design	Ea	6543.00	594.00	7137.00

7-9-5	Providing & erecting approved make Application Software Platform for 500 Users having following features (A) With 100 Users (B) Expandable up to 500 Users with COSEC USER100 (C) Supports up to 16 Door Controllers (D) Basic Access Control, Basic Time Attendance and Enrolment Management (E) Compatible with all COSEC Hardware (F) Add Other COSEC software Modules on requirement.	Ea	3115.00	297.00	3412.00
7-9-6	Providing & erecting approved make Time Attendance Module (TAM) having following features (A) Comprehensive Time Attendance and Leave Management Software Module (B) For 500 Users [AS per COSEC GE PLATFORM USERS] (C) Attendance and Leave Policy Creation (D) Integration with payroll and HRM (E) Shift Schedule, Holiday Schedule and Past Adjustment (F) Manually Attendance Correction (G) Leave / Tour Application and Approval (H) Report and Charts Generation	Ea	3339.00	314.00	3653.00
7-9-7	Providing & erecting approved make Access Control Module (ACM) having following features (A) Comprehensive Access Control Management (B) For 500 Users [AS PER COSEC GE PLATFORM users] (C) Time, User and Zone Based Access Control (D) Access Zones, Access Modes and Access Levels (E) Advanced Access Control Feature like 2-person rule, First in user rule, Antipas Back, Guard Tour, Duress Detection and More (F) Various Reports Generation	Ea	3339.00	314.00	3653.00
Public Address System					
Conference System					
7-10-1	SITC of Delegate Unit shall enable delegates to speak and listen to the proceedings via a loudspeaker or headphones. The unit shall include a microphone with a red indicator ring, which shall illuminate when the microphone is on. The unit shall include a 'Possible To Speak' white LED indicator, which shall illuminate showing the delegate when it is possible to switch on the microphone. To prevent acoustic feedback, the built-in loudspeaker shall be muted when the microphone is on, and/or the headphones are connected. Two 3.5 mm stereo headphone sockets (wired for mono) shall allow two pairs of headphones to be connected, enabling two delegates to simultaneously use the unit. The headphone volume level shall be adjustable on the unit for maximum comfort. It shall also be possible to connect a tape recorder to one headphone socket, and use the other headphone socket to listen to the proceedings. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	28824.00	2883.00	31707.00

7-10-2	SITC of Chairman Unit shall enable the user to function as chairman of a conference or meeting. It shall be similar in appearance to the Delegate Unit, and shall also include a 'chairman priority button. When pressed, the priority button shall cause all currently active delegate microphones to be temporarily or permanently muted, allowing the chairman to take control of the meeting. To prevent acoustic feedback, the built-in loudspeaker shall be muted when the microphone is on, and/or the headphones are connected. An optional chime shall be selectable to precede chairman priority calls. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	34857.00	3486.00	38343.00
7-10-3	SITC of Control Unit shall have features for managing the number of active microphones and determining the operating mode, without the need for a central operator, should be available. It shall be possible to control up to 150 delegate units and power up to 50 delegate units. It shall be possible to connect external equipment to extend the system capabilities. There shall be a built-in loudspeaker and headphone connector to allow the conference to be monitored by, for example, a stenographer. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	85659.00	8567.00	94226.00
7-10-4	SITC of Control Unit Plug-and-play functionality for quick and easy, connection of up to 80 Discussion Devices, Intuitive web browser interface control for advanced, configuration and control, On-board support for automatic HD camera control [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	111634.00	11165.00	122799.00
7-10-5	SITC of CONTROL UNIT RECORDER DAFS Plug-and-play functionality for quick and easy connection of up to 80 Discussion Devices Intuitive web browser interface control for advanced configuration and control Built-in MP3 recorder with internal memory and USB recording Built-in Digital Acoustic Feedback Suppression (DAFS) for ensuring superior speech intelligibility On-board support for automatic HD camera control [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	162092.00	16211.00	178303.00
7-10-6	SITC of EXTENSION UNIT Expands the CCS 1000 D Digital Discussion System up to 245 Discussion Devices Easily connected to system by use of 6-pole circular connectors Built-in splitter allows for installation at any convenient point in system, including loop-through for cascading extension units One trunk and two tap-off connections with short-circuit protection Freestanding or 19" rack mounted; housing similar to control unit [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	105712.00	10572.00	116284.00
7-10-7	SITC of DISCUSSION DEVICE LONG Unique patent pending possible-to-speak indicator Plug and play functionality for ensuring fast installation and reconfiguration times Compact, attractive ergonomic design Easily configured as a participant device or chairperson device Immunity to mobile phone interference [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	35312.00	3532.00	38844.00
7-10-8	SITC of CENTRAL CONTROL UNIT For DCN Next Generation or DCN wireless systems, or a combination of the two In single-CCU; maximum 245 wired contribution units, plus 245 wireless delegate units For multi-CCU systems, with up to 30 CCU's and a total of 4000 contribution units Voice activated microphone mode for wired and wireless systems Ethernet connection for configuration and control computers [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	350256.00	35028.00	385284.00

7-10-9	SITC of DUAL DELEGATE INTERFACE Dual Delegate mode for two microphones and two voting and card panels Two microphone/line inputs Outputs to headphones or loudspeakers Range of mounting options Use for entrance/exit registration Shared microphone with dual microphone control [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	52406.00	5241.00	57647.00
7-10-10	SITC of FLUSH COUPLING [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	8212.00	822.00	9034.00
7-10-11	SITC of FLUSH END CAP [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	17661.00	1767.00	19428.00
7-10-12	SITC of FLUSH LOUDSPEAKER PANEL [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	6608.00	661.00	7269.00
7-10-13	SITC of FLUSH MICROPHONE CONNECTION PANEL [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	4222.00	423.00	4645.00
7-10-14	SITC of FLUSH MICROPHONE CONTROL PANEL [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	4781.00	478.00	5259.00
7-10-15	SITC of FLUSH PRIORITY PANEL [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	18913.00	1891.00	20804.00
7-10-16	SITC of PLUGGABLE LONG MICROPHONE Built-in plop and windshield Uni-directional microphone on adjustable stem [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	17793.00	1779.00	19572.00
7-10-17	SITC of Cable terminated at both ends with a molded six-pole circular connector (male and female). The extension to the type number gives the length of the cable. Prefabricated to reduce installation time Different lengths available Low smoke zero halogen to comply with safety and environmental standards [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	38050.00	3806.00	41856.00
7-10-18	SITC of Prefabricated to reduce installation time Low smoke zero halogen to comply with safety and environmental standards 10 Meter [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	8212.00	822.00	9034.00
7-10-19	SITC of DCN CONNECTORS [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	24946.00	2496.00	27442.00
7-10-20	SITC of Main module software license Meeting & Agenda User management Client server solution Optimized for Microsoft Windows 8.1 and 10 Off-line configuration Multi PC Supports DCN Next Generation or DCN Wireless Discussion System On-screen help facility [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	243023.00	24303.00	267326.00
7-10-21	SITC of Microphone management license Prepare request-to-speak lists Group and individual speech timers Notebook [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	90447.00	9046.00	99493.00
7-10-22	SITC of System server software license Automatic device discovery Controls up to 750 DICENTIS devices for participants Client server solution No user interaction needed to run the system Dante™ inputs and outputs for floor audio [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	135327.00	13534.00	148861.00

7-10-23	SITC of Wireless access point Stand alone usage, no central control unit needed Based on standard WiFi according IEEE 802.11n WPA2 encryption for secure communication Seamless frequency switching in the 2.4 GHz and 5 GHz band Controls up to 120 DICENTIS devices for participants [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	366998.00	36702.00	403700.00
7-10-24	SITC of Wireless discussion device Removable Battery Pack, easy to change and charge Configurable as a participant, dual-use or chairperson Wireless Device by use of web browser interface Functionality can be expanded with software modules without the need for hardware modification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	104340.00	10435.00	114775.00
7-10-25	SITC of Wireless discussion with touchscreen 4.3 inch capacitive touch screen and built-in NFC reader for fast recognition of participants Option to display personalized custom logo on the touch screen Removable Battery Pack, easy to change and charge Configurable as a participant, dual-use or chairperson Wireless Device Extended by use of web browser interface Functionality can be expanded with software modules without the need for hardware modification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	139533.00	13955.00	153488.00
7-10-26	SITC of Battery pack 24 hours typical use from a full charge Fully recharges in less then 3 hours Lithium-ion technology Built-in microprocessor controls charging cycle Long service life without charge degradation [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	34641.00	3464.00	38105.00
7-10-27	SITC of Charger for 5x battery packs Simultaneous charging of up to 5 Battery Packs Individual Battery Pack charging capacity indicators Recharges from empty in less then 3 hours Auto-ranging power supply, 100–240 Vac Loop-through mains power supply connectors [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	124961.00	12497.00	137458.00
7-10-28	SITC of High directive microphone Discrete microphone for user convenience High directive response Low susceptible for mobile phones Ultra low noise Freedom of movement [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	26319.00	2632.00	28951.00
7-10-29	SITC of Microphone with long stem Uni-directional microphone on adjustable stem Built-in pop and windshield Low susceptible for mobile phones For acoustical challenging rooms For locations where people want to speak standing upright [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	19599.00	1961.00	21560.00
7-10-30	SITC of Microphone with short stem Uni-directional microphone on adjustable stem Built-in pop and windshield Low susceptible for mobile phones For acoustical challenging rooms For locations where people want to speak standing upright [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	18123.00	1812.00	19935.00

7-10-31	SITC of Controller Public address and emergency sound system control unit Control and routing of 4 simultaneous audio channels One controller supports 12 zones, expandable up-to 492 zones with 24-zone routers Four controllers can be networked using OMNEO interface module EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	200111.00	20013.00	220124.00
7-10-32	SITC of Router Expansion of PAVIRO system by 24 zones Total 4000 W speaker load, max 500W per zone 20 GPI, 24 GPO and 2 control relays Up to 20 routers per controller EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	171690.00	17170.00	188860.00
7-10-33	SITC of Power amplifier, 2x500W 2 × 500 W class-D power amplifier (70/100 V output) Low power consumption in standby mode Excellent sound quality, high signal-to-noise ratio EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	197896.00	19790.00	217686.00
7-10-34	SITC of Interface module Gigabit Ethernet Interface - 1000 Mbit/s full-duplex Ethernet Interface, IEEE 802.3u compatible Secondary Gigabit Ethernet Interface - Second Ethernet Interface for the connection of a redundant network to establish fault-tolerant systems Status LEDs - Link, Activity and Gigabit active status indication for each Ethernet interface EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	94607.00	9462.00	104069.00
7-10-35	SITC of Call station Call station with soft touch button for PAVIRO system 15 freely programmable buttons Customization via built-in display and keys Provision for installing emergency button and key switch EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	71050.00	7106.00	78156.00
7-10-36	SITC of Call station extension Call station extension keypad with 20 freely programmable buttons Soft-touch selection buttons Up to 5 extension keypads can be connected to one call station EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	42628.00	4263.00	46891.00
7-10-37	SITC of Ceiling loudspeaker, 6W, ABS with clamps Suitable for speech and music reproduction Increased sensitivity Flush-mounting in ceiling cavity Easy to install Protective dust cover Optional certified fire dome Simple power setting Matching surface mounting box Comply with international safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3257.00	326.00	3583.00
7-10-38	SITC of Metal fire dome [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2050.00	206.00	2256.00
7-10-39	SITC of Ceiling loudspeaker, 6W, ABS, 2" Suitable for speech and music reproduction Extreme compact size Suitable for use in humidity-, chlorine- and salty environments Selectable 70 V , 100 V and 8 Ohm input EN 54-24 certified [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2997.00	301.00	3298.00

7-10-40	SITC of Back box for LC5 speaker protects the rear of the loudspeaker from dust and dripping water makes the unit vermin proof prevents sound traveling via the ceiling cavity to adjacent areas [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	470.00	47.00	517.00
7-10-41	SITC of Ceiling loudspeaker 6W metal clamp mount Suitable for speech and music reproduction Easy to install Optional certified fire dome EN 54-24 certified [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2634.00	264.00	2898.00
7-10-42	SITC of Ceiling loudspeaker, 6W, screw mount Suitable for speech and music reproduction Screw mounting Simple power setting EN 54-24 certified [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3216.00	322.00	3538.00
7-10-43	SITC of Ceiling loudspeaker, 24W, 8" Excellent speech and music reproduction High sound pressure level Ideal for high-ceiling applications Flush mounted in ceilings Clamp mounting Simple power setting Unobtrusive white metal grille Ball-proof Complies with international installation and safety regulations BS 5839-8 and EN 60849 compliant Approved by Competent Authority i.e. not Below the rank of Executive Engineer	Ea.	4512.00	452.00	4964.00
7-10-44	SITC of Metal fire dome [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1045.00	105.00	1150.00
7-10-45	SITC of Metal fire dome [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1045.00	105.00	1150.00
7-10-46	SITC of Cabinet loudspeaker, metal, rectangular Suitable for speech and music reproduction Robust metal enclosure Surface and/or recessed mounting Provision for internal mounting of the optional line/loudspeaker supervision boards EN 54-24 certified BS 5839-8 and EN 60849 compliant [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	6355.00	636.00	6991.00
7-10-47	SITC of ABS cabinet loudspeaker 6 W Suitable for speech and music reproduction Compact size Knock-out ports for conduit - or cable entries EN 54-24 certified [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	4006.00	401.00	4407.00
7-10-48	SITC of Horn loudspeaker, 25W High efficiency driver Excellent speech reproduction Provision for inside mounting of the optional line/loudspeaker supervision board Water-and dust protected to IP 65 EN 54-24 certified BS 5839-8 and EN 60849 compliant [Approved by Competent Authority i.e. not Below the rank of Executive Engineer].e. not Below the rank of Executive Engineer]	Ea.	6810.00	681.00	7491.00
7-10-49	SITC of Horn loudspeaker, 35W High efficiency driver Excellent speech reproduction Provision for inside mounting of the optional line/loudspeaker supervision board Water-and dust protected to IP 65 EN 54-24 certified BS 5839-8 and EN 60849 compliant [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	8323.00	833.00	9156.00

7-10-50	SITC of Horn loudspeaker, 10W, 7x8" High efficiency driver Excellent speech reproduction Provision for inside mounting of the optional line / loudspeaker supervision board Water-and dust protected to IP 65 EN 54-24 certified [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	8264.00	827.00	9091.00
7-10-51	SITC of WALL MOUNTING HANDSET STATION [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	21708.00	2171.00	23879.00
7-10-52	SITC of WALL MOUNTING PILFERPROOF STATION [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	22914.00	2292.00	25206.00
7-10-53	SITC of WALL MOUNTING EXTENTION AMPLIFIER [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	11620.00	1162.00	12782.00
7-10-54	SITC of DESK TOP HANDSET STATION [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	11217.00	1122.00	12339.00
7-10-55	SITC of Gooseneck microphone Unidirectional condenser microphone Flexible stem Phantom powered by amplifier On/off sliding switch with priority contact Supplied with fixed 2 m (78 in) cable and lockable DIN connector [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	10843.00	1084.00	11927.00
7-10-56	SITC of Dynamic microphone, 6.3mm jack Unidirectional dynamic microphone Handheld or stand-mounted use with clip (supplied) Rugged construction Modern non-reflective dark Grey finish [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2599.00	260.00	2859.00
7-10-57	SITC of Dynamic microphone, XLR Unidirectional dynamic microphone Handheld or stand-mounted use with clip (supplied) Rugged construction Modern non-reflective dark Grey finish [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2453.00	246.00	2699.00
7-10-58	SITC of Call station, all-call PTT-key for calls for activation Momentary or toggle Green LED, indicating microphone active Stable metal base design with fixed 2 m cable and lockable Euro style connector Phantom powered by amplifier [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	9445.00	945.00	10390.00
7-10-59	SITC of Call station, 2-zone Modern two-zone call station for the PLE series Selectable gain Speech filter and limiter Output level control Loop-through option for up to 8 call stations LED indications for zone selection, busy, and power on [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	18891.00	1890.00	20781.00
7-10-60	SITC of Music source, USB/SD/Tuner MP3 playback from SD card and USB inputs FM tuner with RDS, presets and digital control Simultaneous operation of SD/USB-player and FM tuner Separate outputs for digital source and FM tuner [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	54270.00	5428.00	59698.00
7-10-61	SITC of Mixer amplifier, 60W [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	13211.00	1322.00	14533.00
7-10-62	SITC of Mixer amplifier, 120W [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	15646.00	1565.00	17211.00
7-10-63	SITC of Mixer amplifier, 240W [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	19803.00	1980.00	21783.00

7-10-64	SITC of PLENA 90W ALL-IN-ONE AMPLIFIER [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	18611.00	1862.00	20473.00
7-10-65	SITC of PLENA 180W ALL-IN-ONE AMPLIFIER [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	26454.00	2646.00	29100.00
7-10-66	SITC of PLENA 360W ALL-IN-ONE AMPLIFIER [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	60513.00	6052.00	66565.00
7-10-67	SITC of Power amplifier, 120W [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	12401.00	1240.00	13641.00
7-10-68	SITC of Power amplifier, 240W [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	17128.00	1713.00	18841.00
7-10-69	SITC of Power amplifier, 480W [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	32075.00	3208.00	35283.00
7-10-70	SITC of Call station for 6-zone Stylish six-zone call station, intended for LBB 1925/10 system pre-amplifier Unidirectional condenser microphone on flexible stem Six zone selection keys, all-call key, and momentary PTT-key for calls Selectable gain, speech filter, and limiter for improved intelligibility Selectable priority levels and different pre and post-call chimes LED indications for zone selection, system activity, and call station status [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	39187.00	3919.00	43106.00
7-10-71	SITC of Call station for 6-zone Stylish six-zone call station, intended for LBB 1925/10 system pre-amplifier Unidirectional condenser microphone on flexible stem Six zone selection keys, all-call key, and momentary PTT-key for calls Selectable gain, speech filter, and limiter for improved intelligibility Selectable priority levels and different pre and post-call chimes LED indications for zone selection, system activity, and call station status [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	18866.00	1887.00	20753.00
7-10-72	SITC of Table-top microphone Stylish tabletop unidirectional condenser microphone on a flexible stem Phantom powered by amplifier Momentary or toggle PTT-key for calls with priority contact Green LED, indicating microphone active Stable metal base design with fixed 2 m cable and lockable DIN connector Separate DIN to XLR adapter [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	6670.00	667.00	7337.00
7-10-73	SITC of Message manager Highly flexible stand-alone digital message player Up to 12 messages and 12 trigger inputs Downloads messages from a PC in WAV format Compliant with standards for emergency sound systems Zone control for Plena system preamplifier LBB 1925/10 Front panel control and remote control [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	55667.00	5568.00	61235.00
7-10-74	SITC of Weekly timer Two weekly programs 14 Chimes Six contact outputs Automatic daylight/standard time BGM level control Hold and pause function Programming on the unit and via the supplied PC program Ideal partner complement to the Plena Message Manager and Voice Alarm Controller for timed messages [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	110329.00	11033.00	121362.00

7-10-75	SITC of Controller Heart of the Plena Voice Alarm System EN 54-16 certified Built-in message manager and 240 W amplifier Six-zone outputs 6 emergency and 6 business triggers [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	158839.00	15885.00	174724.00
7-10-76	SITC of Router Expand the Plena Voice Alarm System with six zones EN 54-16 certified 12 additional input contacts Six volume override output contacts Supervision within the Plena Voice Alarm System [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	88881.00	8889.00	97770.00
7-10-77	SITC of Call station, 6-zone Stylish six-zone call station for the Plena Voice Alarm System Six zone selection keys, all-call key and momentary PTT-key for calls Selectable gain, speech filter, limiter, and output level for improved intelligibility LED indications for zone selection, fault, and emergency state Call station extension provides seven additional zone and zone group keys [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	29632.00	2964.00	32596.00
7-10-78	SITC of Call station keypad Seven zone selection keys LED indications for zone selection Up to eight keypads can be connected together [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	21719.00	2173.00	23892.00
7-10-79	SITC of Ceiling loudspeaker 6W, metal with clamp [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	737.00	74.00	811.00
7-10-80	SITC of Ceiling loudspeaker 4W, ABS with clamps [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	623.00	62.00	685.00
7-10-81	SITC of Ceiling loudspeaker 6W, ABS with clamps [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	665.00	67.00	732.00
7-10-82	SITC of Plastic speaker dome [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	538.00	54.00	592.00
7-10-83	SITC of Ceiling speaker, 6W, metal [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	584.00	59.00	643.00
7-10-84	SITC of Ceiling loudspeaker 4W, splash proof [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	648.00	66.00	714.00
7-10-85	SITC of Compact ceiling speaker, 6W, metal [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	706.00	71.00	777.00
7-10-86	SITC of Ceiling loudspeaker 12W, metal [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1159.00	117.00	1276.00
7-10-87	SITC of Ceiling loudspeaker 20W, metal [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1866.00	187.00	2053.00
7-10-88	SITC of Premium-sound ceiling loudspeaker, 15W [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1687.00	169.00	1856.00
7-10-89	SITC of Premium-sound ceiling loudspeaker, 20W [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2479.00	248.00	2727.00
7-10-90	SITC of Premium-sound ceiling loudspeaker, 30W [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3816.00	382.00	4198.00
7-10-91	SITC of ABS back box [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	265.00	27.00	292.00
7-10-92	SITC of Metal fire dome [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	435.00	44.00	479.00

7-10-93	SITC of Ceiling loudspeaker, 6W Suitable for speech and music reproduction Light weight ABS material Easy to install Optional back-box Unobtrusive design [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1628.00	163.00	1791.00
7-10-94	SITC of Back box for LC3 speaker Easy to install Water- and dust protected Prevents sound traveling via the ceiling cavity to adjacent areas [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	482.00	49.00	531.00
7-10-95	SITC of Metal fire dome, white [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1327.00	133.00	1460.00
7-10-96	SITC of Cabinet loudspeaker 6W, black [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1327.00	133.00	1460.00
7-10-97	SITC of Cabinet loudspeaker 6W, white [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1327.00	133.00	1460.00
7-10-98	SITC of Cabinet loudspeaker 12W, black [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1930.00	194.00	2124.00
7-10-99	SITC of Cabinet loudspeaker 12W, white [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1930.00	194.00	2124.00
7-10-100	SITC of Column loudspeaker 24W, black [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3618.00	362.00	3980.00
7-10-101	SITC of Cabinet loudspeaker 6W, corner, black [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1266.00	127.00	1393.00
7-10-102	SITC of Cabinet loudspeaker 12W (bi-dir), black [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1809.00	181.00	1990.00
7-10-103	SITC of Cabinet loudspeaker, 15W, black High-fidelity music and speech reproduction Selectable 8 ohm, 70 V and 100 V inputs Compact yet robust ABS enclosure Supplied with adjustable mounting bracket Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	8443.00	845.00	9288.00
7-10-104	SITC of Cabinet loudspeaker, 30W, black High-fidelity music and speech reproduction Selectable 8 ohm, 70 V and 100 V inputs Compact yet robust ABS enclosure Supplied with adjustable mounting bracket Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	12061.00	1206.00	13267.00
7-10-105	SITC of Column loudspeaker 30W, metal, black [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	9472.00	947.00	10419.00
7-10-106	SITC of Column loudspeaker 40W, metal, black [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	11226.00	1123.00	12349.00
7-10-107	SITC of Column loudspeaker 60W, metal, black [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	12367.00	1237.00	13604.00
7-10-108	[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1507.00	151.00	1658.00
7-10-109	SITC of Sound projector 12W, bi-directional [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2050.00	206.00	2256.00

7-10-110	SITC of Sound projector loudspeaker, 10W Suitable for speech and music reproduction Simple power setting 2 m fixed connection cable IP63 water- and dust-protected Robust self-extinguishing ABS enclosure to UL 94 V0 Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	5026.00	503.00	5529.00
7-10-111	SITC of Pendant sphere loudspeaker, 10W Suitable for speech and music reproduction Simple power setting 5 m fixed connection cable Water and dust protected Robust self-extinguishing ABS enclosure to UL 94 V0 Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	6244.00	625.00	6869.00
7-10-112	SITC of Horn loudspeaker 15W, circular, ABS [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2326.00	234.00	2560.00
7-10-113	SITC of Horn loudspeaker 15W, Elliptical, ABS [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2522.00	253.00	2775.00
7-10-114	SITC of Horn loudspeaker 30W, circular, ABS [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3041.00	305.00	3346.00
7-10-115	SITC of Horn loudspeaker 30W, Elliptical, ABS [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3229.00	323.00	3552.00
7-10-116	SITC of Horn loudspeaker, 15W High-efficiency driver Excellent speech reproduction Versatile mounting bracket Water-and dust protected to IP 65 Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3850.00	385.00	4235.00
7-10-117	SITC of Horn loudspeaker, 20W High efficiency drivers Wide opening angle Excellent speech reproduction Simple power setting Water- and dust protected to IP 65 Versatile mounting bracket Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	8858.00	886.00	9744.00
7-10-118	SITC of Horn loudspeaker, 30W High efficiency drivers Wide opening angle Excellent speech reproduction Simple power setting Water- and dust protected to IP 65 Versatile mounting bracket Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	9276.00	928.00	10204.00
7-10-119	SITC of Volume control, 12W (BS) Volume control 12 W Power-save version Built-in 24 VDC override relay Continuous rotating system Suitable for 3-wire and 4-wire systems Program selector with up to five channels Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2607.00	262.00	2869.00
7-10-120	SITC of Volume control unit, 12W [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	912.00	92.00	1004.00
7-10-121	SITC of Volume control unit, 36W [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1015.00	101.00	1116.00

7-10-122	SITC of Volume control, 36W (BS) Volume control 36 W Power-save version Built-in 24 VDC override relay Continuous rotating system Suitable for 3-wire and 4-wire systems Program selector with up to five channels Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2939.00	294.00	3233.00
7-10-123	SITC of Volume Control 36 W (portrait) 12 W and 36 W versions Available in Portrait – and Landscape design Suitable for 3-wire and 4-wire override systems Built-in 24 VDC override relay Robust design [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3016.00	302.00	3318.00
7-10-124	SITC of Volume control, 100W Volume control 100 W Power-save version Built-in 24 VDC override relay Continuous rotating system Suitable for 3-wire and 4-wire systems Program selector with up to five channels Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	6513.00	651.00	7164.00
7-10-125	SITC of Control unit [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	23379.00	2339.00	25718.00
7-10-126	SITC of Control unit with recorder and amplifier [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	41666.00	4167.00	45833.00
7-10-127	SITC of Participant device long mic, black [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	9445.00	945.00	10390.00
7-10-128	SITC of Chairperson device long mic, black [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	10545.00	1055.00	11600.00
7-10-129	SITC of EXTENSION CABLE ASSEMBLY - 2MTRS [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	954.00	95.00	1049.00
7-10-130	SITC of EXTENSION CABLE ASSEMBLY - 5 MTRS [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1338.00	134.00	1472.00
7-10-131	SITC of EXTENSION CABLE ASSEMBLY - 10 MTRS [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1720.00	173.00	1893.00

7-10-132	<p>SITC of IP based Digital Public Address and Emergency Sound System Controller certified to International standards of Emergency Sound System EN 54 and ISO 7240-16, marked for CE and compliant with the RoHS directive. The system shall be fully IP-network based and all system devices shall communicate via IP, using an Audio over IP (AoIP) protocol that supports standards AES67 for audio and using AES70 for control with optional encryption and authentication to prevent unauthorized access, misuse and modification of data. It shall be capable of receiving Dante and AES67 audio streams. The audio part shall support Layer 3 connections via routers between subnets with latency of less than 10ms and synchronized outputs. The control data part shall be guaranteed by Transmission Control Protocol (TCP) Layer 4. The system shall support >100 simultaneous channels for music routing and making calls. A system based on a single system controller shall support at least 120 system devices and 500 zones. The system controller shall dynamically assign network audio channels for audio routing between system devices across multiple subnets. The system controller shall have dual power supply inputs and power supplies. It shall keep an internal log of fault events and call events. The system controller shall provide a secure TCP/IP open interface for remote control and diagnostics. The system controller shall provide front-panel LED indications for the status of power supplies and the presence of faults in the system upto 2000 faults and provide additional software monitoring and fault reporting features.</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	552417.00	55245.00	607662.00
7-10-133	<p>SITC of The desktop call station with extension keypad with 12 fully programmable keys for zone section and PA system operation. The call station and the keypad shall be certified for EN 54-16 and ISO 7240-16, marked for CE and be compliant with the RoHS directive. Desktop housing with goose neck microphone. 4.3" full-color capacitive touch display. Graphical user interface for optimum user guidance and feedback. Status and fault indicators for voice alarm purposes. Dual Audio over IP-network ports for redundant network. The audio over IP should comply AES 67 standard for audio and AES 70 for control with optional encryption and authentication to prevent unauthorized access, misuse and modification of data. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	478790.00	47882.00	526672.00
7-10-134	<p>SITC of Wall mount housing with fixed hand-held microphone and helix cable with extension keypad with 12 fully programmable keys for zone section and PA system operation. The call station shall be certified for EN 54-16 and ISO 7240-16, marked for CE and be compliant with the RoHS directive. 4.3" full-color capacitive touch display. Graphical user interface for optimum user guidance and feedback. Status and fault indicators for voice alarm purposes. Dual Audio over IP-network ports for redundant network. The audio over IP should comply AES 67 standard for audio and AES 70 for control with optional encryption and authentication to prevent unauthorized access, misuse and modification of data. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	478790.00	47882.00	526672.00

7-10-135	<p>SITC of IP based Digital Class-D multi channel Amplifier 600W each with 8 channels. The amplifier shall adapt the maximum output power of each amplifier channel to its connected loudspeaker load, with free assignable output power per channel. EN 54 certified and ISO 7240-16, marked for CE and compliant with the RoHS directive. The amplifier shall have a built-in independent spare amplifier channel for automatic fail over. The amplifier shall provide an interface for control data and multi-channel digital audio over IP using dual Ethernet ports for redundant network connection, supporting RSTP and loop-through cabling, with automatic fail over to an analog lifeline input.</p> <p>The amplifier shall have dual power supply inputs and power supplies. All amplifier channels shall have independent A/B zone outputs with support for class-A loudspeaker loops.</p> <p>All amplifier channels shall supervise the integrity of connected loudspeaker lines without interruption of audio distribution. The amplifier shall provide front-panel LED status indications for the network link, ground fault, power supplies and audio channels, and provide additional software monitoring and fault reporting features. Audio-over-IP, using the high-quality digital audio interface, compatible with AES67 and AES 70 standards with optional encryption and authentication to prevent unauthorized access, misuse and modification of data using an uncompressed, high-definition digital audio format with 24-bit sample size and 48 kHz sample rate. Digital signal processing on all amplifier channels, including equalization, limiting and delay, to optimize and tailor the sound in each loudspeaker zone. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	530320.00	53035.00	583355.00
7-10-136	<p>SITC of The IP-networked multi function power supply shall contain four independent mains power supplies with power factor correction and dual output connection facilities to power up to three 600 W amplifiers and to power a system controller and two call stations. The multi function power supply shall have an integrated battery charger for a connected battery, and independent converters to use the battery as a backup power source for all connected loads in case of mains failures. Fail over to the backup battery shall be without interruption of output power. It shall use a single 12 V VRLA backup battery to eliminate the need for battery balancing, while maximizing battery lifetime and power density. The multi function power supply shall have eight general purpose control inputs with connection supervision and eight voltage free control outputs. The multi function power supply shall provide an interface for control data and to receive a backup audio channel over Audio over IP using an integrated 6-port</p> <p>Ethernet switch for redundant network connections, supporting RSTP and loop-through cabling. Two ports shall have PoE to provide redundant power to a call. station. The backup audio channel shall be available as analog lifeline to connected amplifiers. The multi function power supply shall provide front-panel LED indications for status of the power supply sections, mains and battery, network link and fault presence, and provide additional software monitoring and fault reporting features. The multi function power supply shall be certified for EN 54-4 and ISO 7240-4, marked for CE and be compliant with the RoHS directive. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	441939.00	44197.00	486136.00
7-10-137	<p>SITC of External Power supply module for Amplifiers (48V DC)</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	20443.00	2045.00	22488.00
7-10-138	<p>SITC of External Power supply module for Controller (24V DC)</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	20443.00	2045.00	22488.00
7-10-139	<p>SITC of Compact device for loudspeaker end-of-line supervision. The end-of-line device shall only require a connection with the end of the loudspeaker line to supervise its integrity. Supervision reliability shall not depend on the number of connected loudspeakers. Supervision shall be inaudible and not interrupt audio content. The end-of-line device shall be certified for EN 54-16 and ISO 7240-16, marked for CE and be compliant with the RoHS directive. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	5527.00	553.00	6080.00

7-10-140	SITC of a Table Top Delegate Unit enabling the participants to actively take part in the meeting proceedings. A builtin microphone with flexible stem and light ring should allow them to speak to the other delegates, and they can listen to the discussion using the built-in loudspeaker or (optional) personal headphones. A light ring should illuminate red when the microphone is on. Two 3.5 mm (0.14 in) stereo headphone sockets (wired for mono) should allow two pairs of headphones to be connected so two delegates can simultaneously use the unit. Built-in volume control for headphones should be available in unit. Length of the microphone from the base of the stem should be min 480mm. Nominal Acoustic Input at the microphone should be 85dB SPL and Frequency Response 400Hz to 10KHz. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	9233.00	924.00	10157.00
7-10-141	SITC of a Table Top Chairman Unit enabling the participants to actively take part in the meeting proceedings. In addition to the 'microphone on' button the chairman unit should have a 'chairman priority' button. When pressed the priority button causes all currently active delegate microphones to be permanently muted or should have option to activate the chime tone to precede chairman priority calls. A builtin microphone with flexible stem and light ring should allow them to speak to the other delegates, and they can listen to the discussion using the built-in loudspeaker or (optional) personal headphones. A light ring should illuminate red when the microphone is on. Two 3.5 mm (0.14 in) stereo headphone sockets (wired for mono) should allow two pairs of headphones to be connected so two delegates can simultaneously use the unit. Built-in volume control for headphones should be available in unit. Length of the microphone from the base of the stem should be min 480mm. Nominal Acoustic Input at the microphone should be 85dB SPL and Frequency Response 400Hz to 10KHz. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	10400.00	1040.00	11440.00
7-10-142	SITC of Stereo Headphones with better sound quality. Headphone shall be light weight for comfortable wearing with Frequency response: 50Hz to 20 kHz and Sensitivity: Min 98 dB. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1947.00	195.00	2142.00

7-10-143	SITC of Tabe top Delegate unit which shall enable delegates to speak and listen to the proceedings via a loudspeaker or headphones. The unit shall include a microphone with a red indicator ring, which shall illuminate when the microphone is on. The unit shall include a 'Possible-To-Speak' white LED indicator, which shall illuminate showing the delegate when it is possible to switch on the microphone. To prevent acoustic feedback, the built-in loudspeaker shall be muted when the microphone is on, and/or the headphones are connected. Two 3.5 mm stereo headphone sockets (wired for mono) shall allow two pairs of headphones to be connected, enabling two delegates to simultaneously use the unit. The headphone volume level shall be adjustable on the unit for maximum comfort. It shall also be possible to connect a tape recorder to one headphone socket, and use the other headphone socket to listen to the proceedings. Microphone with light-ring indicator which illuminates when the microphone is on. Rotary volume control for adjusting headphone volume. The stem length of the microphone shall be 313 mm (12.3 in). [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	28138.00	2814.00	30952.00
7-10-144	SITC of Tabe top Chairman unit which shall enable the user to function as chairman of a conference or meeting. It shall be similar in appearance to the Delegate Unit, and shall also include a 'chairman priority' button. When pressed, the priority button shall cause all currently active delegate microphones to be temporarily or permanently muted, allowing the chairman to take control of the meeting. To prevent acoustic feedback, the built-in loudspeaker shall be muted when the microphone is on, and/or the headphones are connected. An optional chime shall be selectable to precede chairman priority calls. The unit shall have Chairman priority button, Microphone on/off button, Rotary volume control for adjusting headphone volume, Microphone with light-ring indicator which illuminates when the microphone is on, 'Microphone on' indicator (red LED), Loudspeaker, automatically muted when microphone is on and/or headphones are connected. There shall be two 3.5 mm (0.1 in) stereo jack headphone sockets with volume control option. The stem length of the CCS-CMS 67203 microphone shall be 313 mm (12.3 in). [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	34172.00	3418.00	37590.00
7-10-145	SITC of extension cable between the units or between the controller and unit -5 meter long [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	6279.00	628.00	6907.00
7-10-146	SITC of extension cable between the units or between the controller and unit -10 meter long [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	7294.00	730.00	8024.00
7-10-147	SITC of extension cable between the units or between the controller and unit -100 meter long with 5 Male and 5 Female connectors. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	35655.00	3566.00	39221.00
7-10-148	SITC of Rack Mounting kit for the control unit. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	4333.00	434.00	4767.00

7-10-149	SITC of Table top Delegate unit shall enable participants to take part in a discussion by speaking into a microphone and listening to proceedings on a loudspeaker. The device shall have the mentioned features and benefits: Plug-and-play functionality, Compact, attractive, ergonomic design, with LED indicator in the Discussion Device and in head of microphone, Loudspeaker integrated into front of device, Built-in headphone socket with output level control, Automatic level reduction when microphone is activated (configurable via web browser application of Control Unit): prevents acoustic feedback from headphone to microphone, Configurable as a participant or chairperson's device, GSM immunity. Color-coded light-ring indicator in head of microphone: green shall indicate that a request to speak has been added to the waiting list; green flashing shall indicate that the participant is first in the waiting list; red shall indicate that CCSD-DS 68332 the microphone is active. Rotary thumbwheel on side of device for adjusting volume of connected headphones. The chairman has a separate microphone button and priority button enable the user to function as the chairperson at a conference or meeting. The chairperson's microphone shall be activated when the priority button is pressed and held in. All currently active participant microphones shall be muted, allowing the chairperson to take control of the meeting. A chime shall be sounded to announce that the chairperson is about to speak. Length of microphone from mounting surface 310 mm (12.2 in) [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	34745.00	3475.00	38220.00
7-10-150	SITC of extension cable between the units or between the controller and unit -2 meter long [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3878.00	388.00	4266.00
7-10-151	SITC of extension cable between the units or between the controller and unit -5 meter long [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	6496.00	650.00	7146.00
7-10-152	SITC of extension cable between the units or between the controller and unit -10 meter long [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	8212.00	822.00	9034.00
7-10-153	SITC of extension cable between the units or between the controller and unit -15 meter long [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	9688.00	969.00	10657.00
7-10-154	SITC of extension cable between the units or between the controller and unit -20 meter long [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	10829.00	1084.00	11913.00
7-10-155	SITC of extension cable between the units or between the controller and unit -25 meter long [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	12873.00	1288.00	14161.00
7-10-156	SITC of extension cable between the units or between the controller and unit -100 meter long [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	38049.00	3806.00	41855.00
7-10-157	SITC of Connectors [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	24946.00	2496.00	27442.00
7-10-158	SITC of Cable locking clamps [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	25744.00	2575.00	28319.00
7-10-159	SITC of Extension power supply unit shall provide additional power to the discussion unit. The unit shall have the following features: Maximum supply power of 255 W. Allows installation at any convenient point in the system cabling. Loop-through cabling for units. Switches on automatically when the main controller is switched ON. All outputs are protected against short circuit. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	136461.00	13647.00	150108.00

7-10-160	<p>SITC of Table top Disuccion device with fixed microphone enabling participants to speak, register a request-to-speak and listen to the speaker. The microphone stem should be flexible. The unit should have two headphone connections, so the speaker can be heard clearly even in situations with excessive background noise. The built-in loudspeaker should be muted when the microphone is on to prevent acoustic feedback.</p> <p>The unit shall have following features :</p> <ul style="list-style-type: none"> u Low susceptibility to mobile phone interference u Compact, attractive and ergonomic design u Fixed microphone u Built-in loudspeaker u Usable as delegate or chairman unit <p>Mic Length 312.3 mm (12.30 in) [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	51153.00	5116.00	56269.00
7-10-161	<p>SITC of Table top Disuccion device with fixed microphone enabling participants to speak, register a request-to-speak and listen to the speaker. The microphone stem should be flexible. The unit should have two headphone connections, so the speaker can be heard clearly DCN-DL 101713 even in situations with excessive background noise. The built-in loudspeaker should be muted when the microphone is on to prevent acoustic feedback.</p> <p>The unit shall have following features :</p> <ul style="list-style-type: none"> u Low susceptibility to mobile phone interference u Compact, attractive and ergonomic design u Fixed microphone u Built-in loudspeaker u Usable as delegate or chairman unit <p>Mic Length 477.4 mm (18.80 in) [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	51719.00	5173.00	56892.00
7-10-162	<p>SITC OF The Delegate Unit with Channel Selector should enable participants to speak, register a request-to-speak and listen to the speaker. A socket is provided to connect the pluggable microphones The unit shall have built-in channel selector that makes it suitable for discussions in which more than one language is used and simultaneous interpretations are available. The channel selector includes two up and down channel select keys and a display showing the number and the abbreviation of the languages, enabling rapid selection of the required language channel.</p> <p>The unit shall have following features :</p> <ul style="list-style-type: none"> u Low susceptibility to mobile phone interference u Compact, attractive and ergonomic design u Channel selector with number and abbreviated channel name u Built-in loudspeaker and pluggable microphone u Usable as delegate or chairman unit <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	44880.00	4489.00	49369.00

7-10-163	<p>SITC of This Delegate Unit with Voting enables participants to speak, register a request-to-speak, listen to the speaker and vote. A socket is provided to connect the pluggable microphones. The unit has five voting buttons for all types of voting. The yellow indicator rings around the voting buttons are used to prompt users to register their presence, to start voting and to confirm their votes. When the unit's attendance LED is yellow, it indicates the delegate is present.</p> <p>The unit shall have following features :</p> <ul style="list-style-type: none"> u Low susceptibility to mobile phone interference u Compact, attractive and ergonomic design u Five voting buttons u Built-in loudspeaker and pluggable DCN-DV 89393 microphone u Usable as a delegate unit or as a chairman unit <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	45455.00	4546.00	50001.00
7-10-164	<p>SITC of The Delegate Unit with Voting and Channel Selector shall enable participants to speak, register a request-to-speak, listen to the speaker and vote. A socket is provided to connect the pluggable microphones. The unit has five voting buttons for all types of voting. The yellow indicators above the voting buttons are used to prompt users to register their presence, to start voting and to confirm their vote. When the unit's attendance LED is yellow, it indicates the delegate is present. The unit has a built-in channel selector, which makes it suitable for discussions in which more than one language is used and simultaneous interpretations are available. The channel selector includes up and down channel select keys and a display showing the number and the abbreviation of the languages, enabling rapid selection of the required language channel.</p> <p>The unit shall have following features :</p> <ol style="list-style-type: none"> 1 Low susceptibility to mobile phone interference 2 Compact, attractive and ergonomic design 3 Five voting buttons, built-in loudspeaker and pluggable microphone 4 Channel selector with number and abbreviated channel name 5 Usable as a delegate unit or as a chairman unit <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	54336.00	5435.00	59771.00
7-10-165	<p>SITC of Priority button to override delegate units.</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	15952.00	1595.00	17547.00
7-10-166	<p>SITC of Pluggable Microphone should be</p> <ul style="list-style-type: none"> - Uni-directional microphone on adjustable stem with has low susceptibility to interference from mobile phones. <p>Microphone length should be 480 mm (18.9 in) Should be available in dark or light color</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	15505.00	1551.00	17056.00
7-10-167	<p>SITC of Pluggable Microphone should be</p> <ul style="list-style-type: none"> - Uni-directional microphone on adjustable stem with has low susceptibility to interference from mobile phones. <p>Microphone length should be 310 mm (12.2 in) Should be available in dark or light color</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	14819.00	1482.00	16301.00
7-10-168	<p>SITC of uni-directional, condenser handheld microphone with built-in pop and windshield. It shall comfortably fits into one hand and is ideal for applications where the speaker is on the move</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	23014.00	2302.00	25316.00
7-10-169	<p>SITC of Flush positioning tools shall be used to easily position and place the flush mounted panels.</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	1492.00	150.00	1642.00

7-10-170	SITC of Flush extraction tools shall be used to easily extract flush mounted panels. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	16176.00	1618.00	17794.00
7-10-171	SITC of Blank plates shall be used where provisional space for future modules can be reserved and temporarily covered with the new wide or slim blank flush panels. Should be available in dark or light color [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	20285.00	2029.00	22314.00
7-10-172	SITC of Blank plates shall be used where provisional space for future modules can be reserved and temporarily covered with the new wide or slim blank flush panels. Should be available in dark or light color [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	13558.00	1356.00	14914.00
7-10-173	SITC of 32 Channel selector for each delegate for listening to the interpreted language with following features : -digital push button for volume control -back lit LCD Display to indicate the Channel No Frequency response 30 Hz to 20 KHz Headphone load impedance >32 ohm < 1k Ohm Output power 2 x 15 mW/32 ohm Should be available in dark or light color [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	31896.00	3190.00	35086.00
7-10-174	SITC of Voting Panel - The Voting unit shall allow attendance registration and parliamentary voting. The yellow LED confirmation indicators shall be used to prompt the user to indicate presence and to vote and to confirm registration of what is voted. The unit shall have an provision for external present contact, which can be used for an external present or fraud prevention switch for during voting. The Voting panel shall have five voting buttons for YES, NO, ABSTAIN, PRESENT, ABSENT with LED indication. Should be available in dark or light color [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	13790.00	1379.00	15169.00
7-10-175	SITC of Pluggable Microphone should be - Uni-directional microphone on adjustable stem with has low susceptibility to interference from mobile phones. Microphone length should be 310 mm (12.2 in) Should be available in dark or light color [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	14819.00	1482.00	16301.00
7-10-176	SITC of The Trunk Splitter shall be used in LBB4114/00 54459 conjunction with the system installation to divide the trunk-line cabling, thus it shall allow system installers to optimize layout of the trunklineThe product shall have the following Interconnections - 2 m (78.7 in) long cable terminated with a molded six-pole circular connector -Six-pole circular connector for loop-through connections -2 x six-pole circular connector for trunk cable splitting and pulse regeneration purposes [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	27691.00	2770.00	30461.00

7-10-177	SITC of The Tap-Off Units shall create shortcircuit proof tap-off points on the trunk line cabling. A Tap-Off Unit shall consist of two tapoff points. The Tap-Off Unit shall come complete with cable restraining clamps and shall include mounting holes for fixing purposes. The product shall have the following Interconnections 2 m (78.7 in) long cable terminated with a molded six-pole circular connector Six-pole circular connector for loop-through connections 2 x six-pole circular connector for trunk cable splitting and pulse regeneration purposes Shortcircuit proof tap-off points at the system cable Max power at Tap-offs 4.5 W each [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	27691.00	2770.00	30461.00
7-10-178	SITC of extension cable between the units or between the controller and unit -5 meter long [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	6496.00	650.00	7146.00
7-10-179	SITC of locking clamps [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	25744.00	2575.00	28319.00
7-10-180	SITC of Termination Plugs [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1716.00	173.00	1889.00
7-10-181	SITC of Cable Clamps [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3305.00	331.00	3636.00
7-10-182	SITC of network cable of length 0.5m. Plastic optical fiber with 2 plastic fibers for data and audio communication and 2 copper cores for the power supply. The cable shall be supplied with the network connectors fitted [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	4886.00	489.00	5375.00
7-10-183	SITC of network cable of length 2m. Plastic optical fiber with 2 plastic fibers for data and audio communication and 2 copper cores for the power supply. The cable shall be supplied with the network connectors fitted [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	5519.00	552.00	6071.00
7-10-184	SITC of Meeting Streaming License shall Streaming meeting data license is an interface to provide meeting data such as current speakers, request lists, vote results and other information to video screens or video projectors [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	144836.00	14485.00	159321.00
7-10-185	SITC of Delegate database license shall allow users to compile a comprehensive database of information relating to delegates. The license shall provide Comprehensive database information for all delegates, Re-use of delegate information across meetings, Define vote and microphone authorization for each individual participant [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	179126.00	17913.00	197039.00
7-10-186	SITC of Parliamentary voting license shall be used control and to prepare parliamentary voting. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	295435.00	29545.00	324980.00

7-10-187	SITC of Simultaneous Interpretation software module is essential for international conference venues. The simultaneous interpretation software module shall be used to prepare simultaneous interpretation, control facilities and monitor interpreter activities during a conference. It accommodates 31 interpreter booths. It shall allow Operator control of interpreter microphones ,Configure and control interpretation facilities, Monitor interpreter activities, Adjust individual microphone sensitivity of interpreter desks [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	110934.00	11094.00	122028.00
7-10-188	SITC of Synoptic license shall provide functions like automatic seat assignment, synoptic microphone monitoring and control, and voting management. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	125722.00	12573.00	138295.00
7-10-189	SITC of The Digital Audio Powering Switch shall be IP based and it shall be responsible for routing, controlling and processing the audio and supplies power to the multimedia devices. It should includes an intelligent adaptive acoustic feedback suppressor, echo cancellation and two 5-band parametric equalizers for optimal speech intelligibility - Zero network configuration - Completely IP based which is fully compatible to the Ethernet (IEEE802.3) and OMNEO standard - Supports loop-through connection with cable redundancy - Standby mode to be environment friendly - Mains switch on the rear to power on the audio powering switch. - Ground-lift switch. - Led on the front to show: green (power on), amber (standby), blinking (no connection to the system). - Ethernet led's yellow and amber for each socket. - Independent powered sockets; a short circuit on one socket does no influence the other sockets. - Supports hot plug and play system. Technical components as below: Power consumption 530 W System supply 48 Vdc [Approved by Competent Authority i.e. not Below the rank of Executive Engineer] Total power supply 3x 144 W + 15 W DCNM-APS2 467515 Frequency response 30 Hz – 20 kHz THD at nominal level < 0.1 % Dynamic range > 95 dB Signal-to-noise ratio > 95 dB	Ea.	237720.00	23774.00	261494.00
7-10-190	SITC of Powering Switch shall be used in combination with an Audio Powering Switch to supply extra power to the network conference devices. The product shall have the following features and benefits: -The "powering device" shall be used in combination with a central device to supply extra power to the network - The built-in Ethernet switch shall connect all devices in the system together in a network. - The powering device shall have no user controls and shall be controlled remotely. -Supports loop-through (daisy chain) with cable redundancy -Supports star configuration - Zero configuration.- Fully compatible to the Ethernet (IEEE802.3) and OMNEO standard. - Standby mode and less power consumption to be environment friendly [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	168812.00	16882.00	185694.00

7-10-191	SITC of Server Operating System to deliver high performance and stability for conference applications. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	379676.00	37969.00	417645.00
7-10-192	SITC of Omneo Interface in combination with Conference System it can be used to receive the floor audio from Conference System and supplying the interpretations from other Conference System. Omneo Interface shall have Four OMNEO or Dante™ audio inputs and outputs, Eight supervised control inputs and five control outputs, Redundant optical network connection, Redundant OMNEO network connection, Headphone connection and VU-meter for audio monitoring [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	372539.00	37256.00	409795.00
7-10-193	SITC of Audio Routed Network Interface component of the OMNEO system enhances the scalability of the system. Interface shall provide Better scalability through the use of either a DHCP server or DNS server, which extends the use of PTP over multiple subnets , Supports up to 450 OMNEO nodes in a single subnet network, or up to 450 OMNEO nodes in each subnet of a routed network when used in conjunction with an ARNI-E device, Supports redundancy [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	364872.00	36490.00	401362.00
7-10-194	SITC of Audio Routed Network Interface component of the OMNEO system enhances the scalability of the system. Interface shall provide Better scalability through the use of either a DHCP server or DNS server, which extends the use of PTP over multiple subnets , Supports up to 450 OMNEO nodes across a routed network with multiple subnets, or up to 10.000 nodes across 40 subnets when used in conjunction with an ARNI-S device in each subnet, Supports redundancy [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	506232.00	50626.00	556858.00
7-10-195	SITC of Dante Gateway shall offer a professional-grade media networking solution that uses Dante™ as one of the possible media transmission protocols while providing additional features such as encryption. The Device shall be able to combines multiple OMNEO devices into a single Dante™ interface , Combines AES70 and standard Dante™ routing. Supports AES67, Combines RSTP redundancy with glitch-free redundancy, Consolidates multicast traffic between networks [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	283048.00	28306.00	311354.00

7-10-196	<p>SITC of IP based Digital Table Top integrated unit with 7" capacitive touchscreen</p> <p>Unobtrusive pluggable microphone</p> <p>Built-in two-way loudspeaker</p> <p>Video, meeting content and internet access</p> <p>Add functionality via software and 3rd party/custom apps</p> <p>IP based system with the following features like :</p> <ul style="list-style-type: none"> Agenda and meeting data browsing. Internet browsing. Live video (e.g. showing the current speaker). Meeting management for the chair person. Headphones volume control. Possibility for adding 3rd party android app. Functionality can be increased by adding software. <p>Microphone on/off button or request-to-speak button.</p> <p>Microphone mute or chairperson priority button.</p> <p>Indicators showing: microphone on state, request-to-speak and possible-to-speak.</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	190565.00	19058.00	209623.00
7-10-197	<p>SITC of IP based Digital Table Top device</p> <p>Configurable as a single participant, dual-use, or chairperson's device</p> <p>Single-use and chairperson can be configured via the PC configuration software application.</p> <p>Additional functionality by use of software licenses only– Dual use.</p> <p>Audio mute button.</p> <p>The loudspeaker and microphone can be active at the same time to facilitate a face-to-face meeting experience. A feedback suppressor is built in to prevent acoustic feedback.</p> <p>Microphone with a red or green indicator:</p> <ul style="list-style-type: none"> Red indicates that the microphone is active.– Green indicates that a request-to-speak is accepted. LED indicators on device showing: – <p>Microphone on state – Red. – Possible-to-speak – White. – Priority – White (Chairperson only). – Request-to-speak – Green.</p> <p>Technical Parameters:</p> <p>Frequency response 100 Hz to 20 kHz (-3 dB at nominal level)</p> <p>THD at nominal level < 0.1 %</p> <p>Dynamic range > 90 dB</p> <p>Signal-to-noise ratio > 90 dB</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	51145.00	5115.00	56260.00

7-10-198	<p>SITC of IP based Digital Table Top device Configurable as a participant, dual-use, or chairperson's device with Native character language indication, Built-in NFC for fast participant recognition, 1.44 inch screen for displaying:- Language selection in original characters. – Language selection in ISO abbreviation form. – Language numbers. Additional functionality by use of software license only: – Identification functionality. – Select language (license included). – Dual use. The loudspeaker and microphone can be active at the same time to facilitate a face-to-face meeting experience. A feedback suppressor is built in to prevent acoustic feedback. Microphone with a red or green indicator:- Red indicates that the microphone is active. – Green indicates that a request-to-speak is accepted. LED indicators on device showing:- Microphone on state:Red. – Possible-to-speak: White. – Priority: White (Chairperson only). – Request-to-speak: Green. Technical Parameters: Frequency response 100 Hz to 20 kHz (-3 dB at nominal level) THD at nominal level < 0.1 % Dynamic range > 90 dB Signal-to-noise ratio > 90 dB [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	60489.00	6050.00	66539.00
7-10-199	<p>SITC of IP based Digital Table Top device Configurable as a single participant or chairperson's device Built-in NFC reader for fast recognition of participants Five touch buttons to support electronic voting:- Present button – For – Against –Abstain – DNPV Additional functionality by use of software licenses only:- Identification functionality. The loudspeaker and microphone can be active at the same time to facilitate a face-to-face meeting experience. A feedback suppressor is built in to prevent acoustic feedback. The device has a headphone connection and independent volume control (on both sides of the device). Microphone with a red or green indicator: – Red indicates that the microphone is active. – Green indicates that a request-to-speak is accepted. LED indicators on device showing: – Microphone on state:Red. – Possible-to-speak:White. – Priority – White (Chairperson only). – Request-to-speak:Green. • Rotary controls for independent headphone volume control. Technical Parameters : Frequency response 100 Hz to 20 kHz (-3 dB at nominal level) THD at nominal level < 0.1 % [Approved by Competent Authority i.e. not Below the rank of Executive Engineer] Dynamic range > 90 dB Signal-to-noise ratio > 90 Db</p>	Ea.	59124.00	5914.00	65038.00

7-10-200	<p>SITC of IP based Digital Table Top device should be with 4.3 inch capacitive touch screen and built-in NFC reader for fast recognition of participants</p> <p>Configurable as a single participant, dual-use, or chairperson's device</p> <p>Enable participants to speak, register a request to speak, and listen to discussion.</p> <p>4.3 inch capacitive multi-touchscreen for displaying:</p> <ul style="list-style-type: none"> – Multiple user interface languages in original characters.– Speaker list and Request list.– Customer logo. Built-in Near Field Communication (NFC) contactless tag reader. <p>Additional functionality by use of software licenses only.</p> <ul style="list-style-type: none"> – Identification functionality- Voting.– Select language– Dual use.Audio mute button. <p>The loudspeaker and microphone can be active at the same time to facilitate a face-to-face meeting experience. A feedback suppressor is built in to prevent acoustic feedback.</p> <p>Microphone with a red or green indicator:– Red indicates that the microphone is active– Green indicates that a request-to-speak is accepted.</p> <p>LED indicators on device showing– Microphone on state Red,Possible-to-speak – White– Request-to-speak – Green</p> <p>Technical Parameters :</p> <p>Frequency response 100 Hz to 20 kHz (-3 dB at nominal level)</p> <p>[Approved by Competent Authority i.e. not Below the rank</p> <p>THD at nominal level < 0.1 %</p> <p>Dynamic range > 90 dB</p> <p>Signal-to-noise ratio > 90 dB</p>	Ea.	89761.00	8977.00	98738.00
7-10-201	<p>SITC of Flush Base Device Interface Unit shall be surface mounted type for easy mounting on a table, on wall or built into the tabletop, chair armrest, etc..It should have the provision to operate in Standard mode with 2 participants or Configurable for 4 participants with shared microphones and speakers. It should have possibility to programmatically select different device operating modes: dual use, chair, single participant and noise microphone. The device should have Green/yellow LED indicating device state.</p> <p>Device should have Two RJ12 connectors for connecting push-button modules. Each connector is used by one participant, but several modules, should be connected in series to one port. • Two balanced audio inputs for connection (3-pin terminal block). • Two RJ45 connectors for signal connection system and power connections. • Two speaker outputs for connection.(2-pin terminal block).</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	68671.00	6868.00	75539.00
7-10-202	<p>SITC of flush mounted Microphone connection panel shall provide a socket for pluggable Microphone to the flush unit.</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	10285.00	1029.00	11314.00
7-10-203	<p>SITC of Flush mounted Microphone button panel should act as Microphone on/off request button</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	9293.00	929.00	10222.00
7-10-204	<p>SITC of Flush mounted Priority button to override delegate units. Priority key shall generate an optional chime tone to sound while temporarily or permanently muting all active delegate units. The chairman microphone remains active as long as the priority button is pressed.</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	22605.00	2261.00	24866.00

7-10-205	SITC of Flush Mounted Loud speaker Panel shall be intended for use in combination with the flush mount interface. . Also shall be included is a 2 m cable, terminated with a 3.5 mm stereo jack plug. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	10173.00	1018.00	11191.00
7-10-206	SITC of flush mounted Language selector Panel with 1.44-inch display with 4 touch buttons., shall allow delegates to conveniently listen to the speaker in their preferred language. Language selection shall be straightforward and should be automatically activated when headphones are connected to the device. The delegate should be able to then scroll through the available languages by pressing the illuminated touch buttons. Available languages should be displayed in native characters to enhance readability. To facilitate language selection, if a preferred language for the participant should be defined in the system, the language selector automatically uses the defined language. The volume shall also be adjusted via the illuminated touch buttons. The Unit should Supports up to 100 languages and should connect to existing IT infrastructure using standard PoE and network cabling [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	42383.00	4239.00	46622.00
7-10-207	SITC of Flush extraction tools shall be used to easily extract flush mounted panels. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	13446.00	1345.00	14791.00
7-10-208	SITC of End caps shall give a finishing touch to the flush mounted devices. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	21873.00	2188.00	24061.00
7-10-209	SITC of Blank plates shall be used where provisional space for future modules can be reserved and temporarily covered with the new wide or slim blank flush panels [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	24775.00	2478.00	27253.00
7-10-210	SITC of Blank plates shall be used where provisional space for future modules can be reserved and temporarily covered with the new wide or slim blank flush panels [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	16034.00	1604.00	17638.00
7-10-211	SITC of Flush positioning tools shall be used to easily position and place the flush mounted panels. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	4870.00	488.00	5358.00
7-10-212	SITC of Uni-directional microphone on adjustable stem · Built-in pop and windshield · Low susceptibility to mobile phones · For acoustical challenging rooms. Microphone stem Length 310 mm Maximum acoustic input level (dB SPL): 115 dB Microphone stem length (in): 12.21 in Storage temperature (°F): 23 °F – 113 °F [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	16146.00	1615.00	17761.00
7-10-213	SITC of Uni-directional microphone on adjustable stem · Built-in pop and windshield · Low susceptibility to mobile phones · For acoustical challenging rooms. Microphone stem Length 480 mm Maximum acoustic input level (dB SPL): 115 dB Microphone stem length (in): 19.90 in Storage temperature (°F): 23 °F – 113 °F [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	17549.00	1755.00	19304.00
7-10-214	SITC of coupler shall be used to coupler the 2 flush mount units. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	8212.00	822.00	9034.00

7-10-215	<p>SITC of Basic Interpreter desk shall have following features</p> <ul style="list-style-type: none"> • Up to ten desks per booth can be connected • Automatic external headset microphone selection • Tactile feedback for all controls • Language and system configuration from the interpreter desk's configuration menu • Supports up to 100 languages • Fully compliant with ISO 20109 • Audible feedback and pipples for visually impaired users • Hot plug and play <p>Technical specifications as below: Power supply: 48 VDC IEEE802.3at class 4, PoE+ Power consumption: 15 W Audio inputs Nominal microphone input: 85 dB SPL Maximum microphone input: 115 dB SPL Nominal headset microphone input :-38 dBV Maximum headset microphone input: -8 dBV Audio outputs Loudspeaker nominal output: 72 dB SPL Headphone nominal output: -3 dBV Headphone maximum output: 0 dBV Headphone load impedance (for each earpiece) > 32 ohm < 1 k ohm Headphone output power (for both earpieces): 65 mW Screen size: 7 inch [Approved by Competent Authority i.e. not Below the rank of Executive Engineer] Screen type: TFT Screen resolution: 800 x 480p</p>	Ea.	205026.00	20504.00	225530.00
7-10-216	<p>SITC of Basic Interpreter desk shall have following features</p> <ul style="list-style-type: none"> • Up to ten desks per booth can be connected • Automatic external headset microphone selection • Tactile feedback for all controls • Language and system configuration from the interpreter desk's configuration menu • Supports up to 100 languages • Fully compliant with ISO 20109 • Audible feedback and pipples for visually impaired users • Hot plug and play • HDMI connector for external video screen using a properly shielded cable (HDMI high speed or better) to show the participant speaking or to display the participant's presentation. <p>Technical specifications as below: Power supply: 48 VDC IEEE802.3at class 4, PoE+ Power consumption: 18 W Screen size: 7 inch Screen type: TFT Screen resolution: 800 x 480p [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	130449.00	13046.00	143495.00
7-10-217	<p>SITC of On Air & Telephone indicator shall be used to control a booth on-air indicator outside the booth, to display on the Interpreter desk that the telephone outside the booth is ringing, and to display on the Interpreter desk that a sensor inside the booth detects a too high CO2 level. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	27370.00	2737.00	30107.00

7-10-218	SITC of Cabe tool kit. The System Cable Toolkit should contains two unique tools for attaching the conference system connector to a custom made length of system installation/network cable. One tool is used for connecting the two power wiring contacts and the other tool is used for connecting the eight contacts to the four CAT-5e twisted pairs signal wires of the system installation/network cable. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	440128.00	44015.00	484143.00
7-10-219	SITC of connectors used for replacing of a defect connector or when shortening of a system network cable [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	51377.00	5138.00	56515.00
7-10-220	SITC of connectors for connecting all types of the Cables [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	52517.00	5252.00	57769.00
7-10-221	SITC of power cable of 2 mtrs with connectors.The System Network Cables should be terminated at both ends with RJ45 like connectors with additional power pins. The system network cables are used to connect a conference device to the audio powering switch or to the powering switch. It provides network communication and power transports in one cable. The system network cables are used when loop-trough and redundant cable connections are required.Dimensions (dia.) 6.35 mm,Material PVC [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	5363.00	537.00	5900.00
7-10-222	SITC of power cable of 5 mtrs with connectors.The System Network Cables should be terminated at both ends with RJ45 like connectors with additional power pins. The system network cables are used to connect a conference device to the audio powering switch or to the powering switch. It provides network communication and power transports in one cable. The system network cables are used when loop-trough and redundant cable connections are required.Dimensions (dia.) 6.35 mm,Material PVC [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	7638.00	764.00	8402.00
7-10-223	SITC of power cable of 10 mtrs with connectors.The System Network Cables should be terminated at both ends with RJ45 like connectors with additional power pins. The system network cables are used to connect a conference device to the audio powering switch or to the powering switch. It provides network communication and power transports in one cable. The system network cables are used when loop-trough and redundant cable connections are required.Dimensions (dia.) 6.35 mm,Material PVC [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	12075.00	1208.00	13283.00
7-10-224	SITC of power cable of 25 mtrs with connectors.The System Network Cables should be terminated at both ends with RJ45 like connectors with additional power pins. The system network cables are used to connect a conference device to the audio powering switch or to the powering switch. It provides network communication and power transports in one cable. The system network cables are used when loop-trough and redundant cable connections are required.Dimensions (dia.) 6.35 mm,Material PVC [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	21084.00	2109.00	23193.00

7-10-225	SITC of power cable of 250 mtrs with Dimensions (dia.) 6.35 mm, Material PVC [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	194772.00	19479.00	214251.00
7-10-226	SITC of Cable coupler enabling to connect cable assemblies (with one another or with standard CAT-E cable) without the need for special tools. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	22328.00	2234.00	24562.00
7-10-227	SITC of The 'pluggable high-directive microphone' shall be a stylish high-directive microphone that shall give the user a clear view of the meeting room, due to its unobtrusive design. The high-directive microphone shall contain two precisely positioned capsules to give it a high-directive response. This shall make it possible to have a larger speaking distance than normal from the microphone, even in noisy conditions. The microphone shall have the following features and benefits: • Discrete microphone for user convenience. • High-directive response. • Ultra-low noise. • Low susceptibility to interference from mobile phones. The microphone shall have the following controls and indicators: • Red or green illuminator. Red shall indicate that the microphone is active; green shall indicate that the request-to-speak is accepted. Frequency Bandwidth 100 Hz – 15 kHz according IEC60914 Dynamic range > 96 dB [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	26319.00	2632.00	28951.00
7-10-228	SITC of Uni-directional microphone on adjustable stem with following features: Built-in pop and windshield Low susceptible for mobile phones For acoustical challenging rooms For locations where people want to speak standing upright Controls and Indicators:- Red or green illuminator. Red indicates microphone active, green indicates request for speech accepted. Length: 480 mm (19.90 in) Bandwidth 125 Hz – 15 kHz Dynamic range >100 dB Nominal input 85 dB SPL Maximum input 115 dB SPL Equivalent noise 15 dB SPL [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	19599.00	1961.00	21560.00
7-10-229	SITC of Uni-directional microphone on adjustable stem with following features: Built-in pop and windshield Low susceptible for mobile phones For acoustical challenging rooms For locations where people want to speak standing upright Controls and Indicators:- Red or green illuminator. Red indicates microphone active, green indicates request for speech accepted. Length: 310 mm (12.21 in) Bandwidth 125 Hz – 15 kHz Dynamic range >100 dB Nominal input 85 dB SPL Maximum input 115 dB SPL Equivalent noise 15 dB SPL [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	18123.00	1812.00	19935.00
7-10-230	SITC of Single Earphone with better sound quality. Headphone shall be Lightweight single earphone for comfortable wearing with Frequency response: 100Hz to 5 kHz and Sensitivity: 114 dB SPL/earpiece at 1 mW/earpiece [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1947.00	195.00	2142.00

7-10-231	SITC of Stereo neckband with better sound quality. Headphone shall be light weight for comfortable wearing with Frequency response: 20Hz to 20 kHz and Sensitivity: 111 dB SPL/earpiece at 1 mW/earpiece [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	2633.00	264.00	2897.00
7-10-232	SITC of Light weight Durable and Dymanic Headphone with High Quality sound reproduction for interpreter console Impedance 32 ohms Audio frequency response 20 Hz – 20 kHz Sensitivity 113 +/-3 dB SPL/mW (at 32 ohms) THD: 1% at 1 kHz at 1 Mw [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	11173.00	1118.00	12291.00
7-10-233	SITC of Induction Loop Neckband shall have magnetically couples the sound signal from the headphone output to a 'T-coil' hearing aid. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	6279.00	628.00	6907.00
7-10-234	SITC of Interpreter headphones shall have Wide frequency range for ensuring high-quality sound reproduction This should be Comfortable fit and easy to adjust thanks to ultralightweight ergonomic design ,Hygienic and very easy to clean. This should have Stainless steel bow which shall retains shape for lifetime . Should be Fully compliant with EN ISO 20109:2016 Audio frequency response 50 Hz – 18 kHz Sensitivity 102 +/-3 dB (at 1 KHz/mW) THD: 1% at 1 kHz at 1 mW [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	12074.00	1208.00	13282.00
7-10-235	SITC of Interpreter headsets shall have Wide frequency range for ensuring high-quality sound reproduction This should be Comfortable fit and easy to adjust thanks to ultralightweight ergonomic design ,Hygienic and very easy to clean. This should have Stainless steel bow which shall retains shape for lifetime . Should be Fully compliant with EN ISO 20109:2016 Audio frequency response 50 Hz – 18 kHz Sensitivity 102 +/-3 dB (at 1 KHz/mW) Microphone shall be Omnidirectional with Frequency 50 Hz ~ 20 kHz Impedance 2200 Ohm +/- 30% (at 1 KHz) Sensitivity -58 dB +/- 3 dB (0 dB = 1 V/microbar 1000 Hz indicated by open circuit) [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	28481.00	2849.00	31330.00
7-10-236	SITC of Interpreting prepare and manage license software enables enables configuration and management of the interpreter desk via the Meeting application, the .NET API and the Conference protocol. Enables different interpreting configurations for each meeting [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	141106.00	14111.00	155217.00
7-10-237	SITC of Meeting preparation and management software shall enable the preparation of meetings and agendas. During the preparation of an agenda, basic discussion settings shall be defined, and a complete set of discussion settings can be selected from a profile The manage function shall enable an operator or chairperson to manage a prepared meeting, open and close the meeting [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	225377.00	22540.00	247917.00

7-10-238	SITC of Camera Control software enables Automatically shows current speaker on display of multimedia devices or external screen. Should have Interface for Onvif Profile-S compliant IP, Automatically discovers Onvif Profile-S cameras, Controls HD-SDI video switchers [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	96614.00	9662.00	106276.00
7-10-239	SITC of Media sharing module should make it possible to share the display of a remote presentation computer to all displays of the DICENTIS Multimedia devices. The chairperson or meeting manager can activate the presentation mode using the Meeting Application or using the Multimedia devices. When the presentation mode is activated the screen of a remote presentation computer is streamed via the network to all the Multimedia devices [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	64479.00	6448.00	70927.00
7-10-240	SITC of The Participant database software module shall enable a comprehensive database of participant information.It shall be possible to enter information before or during a meeting.A considerable amount of data shall be specifiable for each participant, such as: first name, middle name, last name, title, region and country,etc.It shall be also be possible to link a picture to a participant. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	106324.00	10633.00	116957.00
7-10-241	SITC of Voting at seat license shall enable participants to vote during a voting session by pressing the representative button on the display of their conference device. Participants with voting rights shall be able to select colorcoded buttons for: "For" (button shall have green shading) "Against" (button shall have red shading) "Abstain" (button shall have yellow shading) [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	10389.00	1040.00	11429.00
7-10-242	SITC of identification at seat license shall enable participants to use of a unique username (and password) for logging in to a Multimedia device. -NFC tag can be used to log in a basic discussion device, Discussion device with voting, Discussion device with language selector, Discussion device with touchscreen . Possibility to use fixed or free seating [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	10389.00	1040.00	11429.00
7-10-243	SITC of Language at seat software license shall enable the language selection feature of the conference device. This feature shall enable participants to: select the required language from the language list in the conference device. The floor language shall be the first language in the list,quickly switch between the floor language and other available languages. The name of the selected language shall be clearly displayed, using the original name and characters listen to the selected language by use of the headphone socket on the conference device. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	10389.00	1040.00	11429.00

7-10-244	SITC of The "voting preparation" feature shall enable a secretary or clerk to prepare and add one or more voting rounds to a meeting. It shall be possible to: prepare voting rounds as required, modify a prepared voting round at a later date, recall or delete a voting round from a meeting. It shall be possible to display a live update of the voting results (totals and/or individual results) or display voting results once voting has closed or is on hold. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	252523.00	25254.00	277777.00
7-10-245	SITC of Voice Mode show mic License shall show active mic. License should shows who is speaking when the System is in voice mode. This should enables automatic camera control using Camera control software, or recording speaker-names while the system is in voice mode. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	42770.00	4278.00	47048.00
7-10-246	SITC of Dual Use at Seat license shall allows two participants to use the same device and still have their names correctly displayed in the speakers list or with the camera image. It shall allows one participant to speak while the other participant is in the waiting-to-speak list [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	10389.00	1040.00	11429.00
7-10-247	SITC of Dante Streaming software license shall enable the sending or receiving of Dante audio streams, allowing the interfacing of the Conference System with other systems based on Dante and providing the ability to record the interpreted languages or to interface with a 3rd party discussion or interpreting system. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	4408.00	441.00	4849.00
7-10-248	SITC of the Interpreting multiple source license should enable interpreted languages from multiple sources seamlessly thereby allowing interfacing with remote interpreting systems . It should allow Exchange of interpretation quality index between local and remote interpreting systems [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	141106.00	14111.00	155217.00
7-10-249	SITC of Transport case shall hold ten wireless discussion devices, ten high-directive microphones, ten short or long stem microphones, one WAP, one PSU, and two chargers. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	133731.00	13374.00	147105.00
7-10-250	SITC of a Transmitter which shall accepts analogue or digital input, modulates these signals onto carrier waves and transmits these carrier waves to radiators located in the room. The unit shall distribute a maximum of 4 audio channels. The unit shall come with 2 x 16 character LCD display for status information and transmitter configuration • Rotary push button for navigation through menus and configuration • Power on/off switch on front panel. • Built-in mini infrared radiator for audio monitoring , • Automatic distribution of emergency messages to all channels • Automatic standby/on function • Six BNC connectors for output of HF signal to up to 30 radiators [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	336810.00	33683.00	370493.00

7-10-251	<p>SITC of a Transmitter which shall accepts analogue or digital input, modulates these signals onto carrier waves and transmits these carrier waves to radiators located in the room. The unit shall distribute a maximum of 8 audio channels.</p> <p>The unit shall come with 2 x 16 character LCD display for status information and transmitter configuration • Rotary push button for navigation through menus and configuration</p> <ul style="list-style-type: none"> • Power on/off switch on front panel. • Built-in mini infrared radiator for audio monitoring , • Automatic distribution of emergency messages to all channels • Automatic standby/on function • Six BNC connectors for output of HF signal to up to 30 radiators <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	451052.00	45108.00	496160.00
7-10-252	<p>SITC of a Transmitter which shall accepts analogue or digital input, modulates these signals onto carrier waves and transmits these carrier waves to radiators located in the room. The unit shall distribute a maximum of 16 audio channels.</p> <p>The unit shall come with 2 x 16 character LCD display for status information and transmitter configuration • Rotary push button for navigation through menus and configuration</p> <ul style="list-style-type: none"> • Power on/off switch on front panel. • Built-in mini infrared radiator for audio monitoring , • Automatic distribution of emergency messages to all channels • Automatic standby/on function • Six BNC connectors for output of HF signal to up to 30 radiators <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	679651.00	67969.00	747620.00
7-10-253	<p>SITC of a Transmitter which shall accepts analogue or digital input, modulates these signals onto carrier waves and transmits these carrier waves to radiators located in the room. The unit shall distribute a maximum of 32 audio channels.</p> <p>The unit shall come with 2 x 16 character LCD display for status information and transmitter configuration • Rotary push button for navigation through menus and configuration</p> <ul style="list-style-type: none"> • Power on/off switch on front panel. • Built-in mini infrared radiator for audio monitoring , • Automatic distribution of emergency messages to all channels • Automatic standby/on function • Six BNC connectors for output of HF signal to up to 30 radiators <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	1136848.00	113691.00	1250539.00
7-10-254	<p>SITC of Bracket for Mounting Radiators.</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	13103.00	1311.00	14414.00

7-10-255	<p>SITC of Radiators should be used to distribute infrared signals throughout the conference venue, enabling delegates to listen to the proceedings by means of personal pocket receivers. The coverage shall be up to 1300 m2 .</p> <p>Raditors shall have following features:</p> <ul style="list-style-type: none"> • Temperature protection circuitry automatically switches radiator from full- to half- power if the temperature becomes too high • Adjustable radiator angle ensures maximum coverage • IREDs protected by a cover plate, making the units easy to maintain and clean. • LED indicators for radiator status checking <p>Technical Specification: Power consumption : 100 W Number of IREDs : 260 Total optical peak intensity : 12 W/sr Angle of half intensity $\pm 22^\circ$ [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	251621.00	25164.00	276785.00
7-10-256	<p>SITC of Radiators should be used to distribute infrared signals throughout the conference venue, enabling delegates to listen to the proceedings by means of personal pocket receivers. The coverage shall be up to 2600 m2.</p> <p>Raditors shall have following features:</p> <ul style="list-style-type: none"> • Temperature protection circuitry automatically switches radiator from full- to half- power if the temperature becomes too high • Adjustable radiator angle ensures maximum coverage • IREDs protected by a cover plate, making the units easy to maintain and clean. • LED indicators for radiator status checking <p>Technical Specification: Power consumption : 100 W Number of IREDs : 260 Total optical peak intensity : 12 W/sr Angle of half intensity $\pm 22^\circ$ [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	378617.00	37864.00	416481.00
7-10-257	<p>SITC of pocket receivers which shall incorporate the latest electronics technology - including a specially designed IC - to ensure maximum performance and a long battery lifetime. The pocket eceivers shall be used for both language and music distribution. The receiver shall be 4 channel and should have below features:</p> <ul style="list-style-type: none"> • Audio signal automatically muted when signal is too low, ensuring that the user receives only high quality audio • No power used when headphone is disconnected • Clip for easy wearing • Measurement mode for easy checking of radiator coverage • Up to 200 hours operation with alkaline batteries • Up to 75 hours operation with battery pack • Recharges from empty to full capacity within 1 hour and 45 minutes • 2-digit LCD display with channel number, battery and reception status indication • On/off button • Volume control slide adjuster • Channel selection up/down buttons • Charging indicator LED • 3.5 mm (0.14 in) stereo jack output socket for headphones <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	19711.00	1972.00	21683.00

7-10-258	<p>SITC of pocket receivers which shall incorporate the latest electronics technology - including a specially designed IC - to ensure maximum performance and a long battery lifetime. The pocket receivers shall be used for both language and music distribution. The receiver shall be 8 channel and should have below features:</p> <ul style="list-style-type: none"> • Audio signal automatically muted when signal is too low, ensuring that the user receives only high quality audio • No power used when headphone is disconnected • Clip for easy wearing • Measurement mode for easy checking of radiator coverage • Up to 200 hours operation with alkaline batteries • Up to 75 hours operation with battery pack • Recharges from empty to full capacity within 1 hour and 45 minutes • 2-digit LCD display with channel number, battery and reception status indication • On/off button • Volume control slide adjuster • Channel selection up/down buttons • Charging indicator LED • 3.5 mm (0.14 in) stereo jack output socket for headphones <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	22097.00	2211.00	24308.00
7-10-259	<p>SITC of pocket receivers which shall incorporate the latest electronics technology - including a specially designed IC - to ensure maximum performance and a long battery lifetime. The pocket receivers shall be used for both language and music distribution. The receiver shall be 32 channel and should have below features:</p> <ul style="list-style-type: none"> • Audio signal automatically muted when signal is too low, ensuring that the user receives only high quality audio • No power used when headphone is disconnected • Clip for easy wearing • Measurement mode for easy checking of radiator coverage • Up to 200 hours operation with alkaline batteries • Up to 75 hours operation with battery pack • Recharges from empty to full capacity within 1 hour and 45 minutes • 2-digit LCD display with channel number, battery and reception status indication • On/off button • Volume control slide adjuster • Channel selection up/down buttons • Charging indicator LED • 3.5 mm (0.14 in) stereo jack output socket for headphones <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	25744.00	2575.00	28319.00
7-10-260	<p>SITC of NiMH Battery Pack to be used with Pocket Receivers. Temperature sensor for optimal charging process shall be available</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	18466.00	1847.00	20313.00
7-10-261	<p>SITC of charging case which can be used for portable applications. Each Charging case should accommodate 56 pocket receivers and should have Universal mains power facility allows use worldwide with a Rapid recharging: within 1 hour and 45 minutes</p> <p>[Approved by Competent Authority i.e. not Below the rank of Executive Engineer]</p>	Ea.	251621.00	25164.00	276785.00

7-10-262	SITC of charging case which can be used for Fixed applications. Each Charging case should accommodate 56 pocket receivers and should have Universal mains power facility allows use worldwide with a Rapid recharging: within 1 hour and 45 minutes [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	235102.00	23512.00	258614.00
7-10-263	SITC of Universal floor stand for mounting radiators [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	19614.00	1962.00	21576.00
7-10-264	SITC Foampad for Lightweight headsets. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	11173.00	1118.00	12291.00
Projector					
7-11-1	SITC of 3LCD Lamp based projector having wxga (1280x800) or better resolution with minimum white brightness of 3800 lumens and color brightness of 3800 lumens. The projector should have minimum 1HDMI, 1VGA input. Having contrast ratio of 15000:1 or more. the projector should have auto vertical key stone correction of +/- 30 degree and Manual Horizontal of +/-30 degree. the projector should have optical lens, throw ratio 1.30-1.56:1. Zoom Factor of 1.2. Lens focus Manual having focal length 16.9mm to 20.28mm. projector should have features like AV mute slide, quick corner and split function and should support wireless functionality with inbuilt wifi or wifi dongle. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	30509.00	3051.00	33560.00
7-11-2.	SITC of universal Projector mounting kit, with necessary grouting, fasteners etc. with adjustable height and suitable for all types of projectors. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	5509.00	1272.00	6781.00
Projector Screen					
7-12-1	SITC of 84 inch Self Lock MW (6 x 4) Instalock Slow Retraction Screen, Aspect Ratio-4:3 [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3041.00	305.00	3346.00
7-12-2	SITC of 100 inch Self Lock MW (7 x 5) Instalock Slow Retraction Screen, Aspect Ratio-4:3 [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3429.00	344.00	3773.00
7-12-3	SITC of 120 inch Self Lock MW (8 x 6) Instalock Slow Retraction Screen, Aspect Ratio-4:3 [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	4802.00	480.00	5282.00
Networking					
7-13-1	SITC of O. F. Cable 06F Outdoor - Armoured Unitube SM - HDPE Sheath [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	45.00	5.00	50.00
7-13-2	SITC of LIU 12 PORT Rack Mount - Loaded (LC) SM [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	6211.00	622.00	6833.00
7-13-3	SITC of PIGTAIL LC SM SIMPLEX LENGTH- 1m [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	702.00	70.00	772.00
7-13-4	SITC of PATCH CORD LC-LC SM DUPLEX LENGTH- 3m [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1711.00	172.00	1883.00
7-13-5	SITC of CAT6 UTP 23AWG Solid: Per Meter [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	38.00	5.00	43.00
7-13-6	SITC of Face Plate - Single (Keystone Jack, square) [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	82.00	8.00	90.00
7-13-7	SITC of Face Plate - Dual (Keystone Jack, square) [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	90.00	10.00	100.00
7-13-8	SITC of Jack Cat 6 Keystone UTP [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	145.00	15.00	160.00

7-13-9	SITC of Patch Panel UTP Keystone- 24 Port- Unloaded (Cat 5e,Cat 6 & Cat 6 A) [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	1350.00	135.00	1485.00
7-13-10	SITC of Patch Panel Cat 6 UTP Keystone Type- 24 Port- Fully Loaded [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	3961.00	396.00	4357.00
7-13-11	SITC of CAT6 UTP 24AWG PATCH CORD:1M,Plug 30U' Snag less [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	141.00	14.00	155.00
7-13-12	SITC of CAT6 UTP 24AWG PATCH CORD:2M,Plug 30U' Snag less [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	181.00	18.00	199.00
7-13-13	SITC of 8 x 10/100/1000BASE-T PoE ports 2 x Gigabit SFP ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface 65W PoE budget [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	16561.00	1657.00	18218.00
7-13-14	SITC of 24 x 10/100/1000BASE-T ports 4 x Gigabit RJ45/SFP Combo ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	13861.00	1386.00	15247.00
7-13-15	SITC of 24 x 10/100/1000BASE-T PoE ports 4 x Gigabit RJ45/SFP Combo ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface 193 W PoE budget [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	28800.00	2880.00	31680.00
7-13-16	SITC of 48 x 10/100/1000BASE-T ports 4 x Gigabit GbE/SFP combo ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	27361.00	2737.00	30098.00
7-13-17	SITC of Maximum distance of up to 10 km Hot-pluggable Single-mode fiber 1000BASE-LX (IEEE 802.3z standard) Duplex LC connector MSA, RoHS-compliant [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	4321.00	433.00	4754.00
7-13-18	SITC of 20 x SFP ports 4 x Combo 10/100/1000BASE-T/SFP ports 4 x 10G SFP+ ports 6 kV surge protection on all RJ-45 access ports Switch Resource Management (SRM) for flexible management of system resources Redundant Power Supply (RPS) support MPLS L2VPM/L3 VPN support Full L3 routing protocol support including OSPF, BGP, and ISIS for IPv4/IPv6 SDN-enabled switch, compatible with Openflow 1.3 10-GbE SFP+ to SFP+ 1M Direct Attach Cable [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	583200.00	58324.00	641524.00
7-13-19	Supply, Installation Testing & Commissioning 5 Mtr. HDMI Interface Cable as per the detailed Specifications supports transmission of 4K Signals as per the detailed Specifications	Ea.	810.00	10.00	820.00
7-13-20	Supply, Installation Testing & Commissioning 10 Mtr. HDMI Interface Cable as per the detailed Specifications supports transmission of 4K Signals as per the detailed Specifications	Ea.	1300.00	10.00	1310.00

7-13-21	Supply, Installation Testing & Commissioning 15 Mtr. HDMI Interface Cable as per the detailed Specifications supports transmission of 4K Signals as per the detailed Specifications	Ea.	1750.00	10.00	1760.00
Video Conferencing System					
7-14-1	Supply, Installation, Testing and Commissioning of USB Full HD 1080p @ 30fps Webcamera, 1/3 " 2mp Sensor, 90 degree Wide FOV, built in Mic, MJPEG compression format, Manual Focus, Auto white balance & other image processing algorithms, USB 2.0, BIS, CE,FCC, RoHS certified. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	15021.00	1502.00	16523.00
7-14-2	Supply, Installation, Testing and Commissioning of USB Full HD 1080p@30fps Web Camera, 1/3", 2.07MP sensor, 60 Degree FOV, built in Mic, 360 degree manual rotation, privacy shutter, MJPEG compression format, Auto Focus, Auto white balance & other image processing algorithms, USB 2.0, BIS, CE,FCC, RoHS certified, [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	15565.00	1557.00	17122.00
7-14-3	Supply, Installation, Testing and Commissioning of USB Ultra HD 4K@30fps Video Conferencing Camera, 1/2.7" CMOS 8 MP sensor, 110 Degree Wide FOV, 8 X digital zoom with ePTZ Technology, built in 2Nos Beamforming mic, AI Tracking and Auto Framing, Supports WDR, Automatic white balance, 2D & 3D noise reduction, Unique noise suppression and Auto echo cancellation, USB 3.0 interface, BIS, CE,FCC, RoHS certified. [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	32284.00	3229.00	35513.00
7-14-4	Supply, Installation, Testing and Commissioning of USB PTZ Full HD 1080p@30fps Video Conferencing Camera, 1/2.8" CMOS 2.16 MP sensor, 62 degree FOV, 10X Optical Zoom with Enhanced PTZ, PAN ± 90 degree, Tilt (+) 90 degree and (-) 30 degree, H.264/MPEG Video compression, Auto/Manual Focus, USB 2.0 Interface Plug & Play, BIS, CE,FCC, RoHS certified [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	Ea.	46836.00	4685.00	51521.00

CHEPTER -VIII AIR CONDITIONING SYSTEM, WATER COOLERS & WATER HEATERS					
SECTION 8-1 AIR - COOLERS					
Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-1-1.	Supplying & Installing approved make air cooler (desert cooler) 230Volts, having brass nuts-bolts, with fan, pump, drip proof motor, filter pads, confirming to IS-3315, separate control switch for pump & fan complete with 5 mtrs. long 3core flexible copper Core and top erected on suitable stand with following air displacement capacity.				
	(A) With Stainless Steel body (i) 50 cu. mtrs / minute	Ea.	7200.00	170.00	7370.00
	(A) With Stainless Steel body (ii) 85 cu. mtrs. / minute	Ea.	8230.00	170.00	8400.00
	(B) With FRP (moulded fiber) body (i) 50 cu. mtrs minute	Ea.	5143.00	170.00	5313.00
	(B) With FRP (moulded fiber) body (ii) 65 cu. mtrs. / minute	Ea.	5714.00	170.00	5884.00
	(B) With FRP (moulded fiber) body (iii) 85 cu. mtrs / minute	Ea.	6172.00	170.00	6342.00
	(C)with ABS plastic body (i) 2000 cu. mtrs. Hr.	Ea.	5143.00	170.00	5313.00
	(C)with ABS plastic body (ii) 3000 cu. mtrs Hr.	Ea.	8230.00	170.00	8400.00
8-1-2	Supplying & Installing approved make air cooler, All plastic body injection molding made of 100% virgin Poly propylene high impact resistance material, motor should be 3 speed aluminum body with copper winding with 950RPM/220Volts/50HZ, should be "P2" type, cooling media should be 4 inch cellulose pad with maximum 5 mm flute, all hardware SS 304, Power cord and 3 Pin molded plug top, should be ball valve for automatic water refilling, should have water drainage system, should have complete cover for air cooler to protect when unused.				
	(A) motor 175W, fan 21-inch, sound maximum 63db, air delivery 6000 CMH, can cover 900 square feet, tank 60 Liters, cooling pad size 770x100x700 mm.	Ea.	27544.00	382.00	27926.00
	(B) motor 490W, fan should be one piece aluminum pressure die cast 30" with air delivery 18000 CMH, can cover 2500 square feet, sound maximum 67db, tank 90 Liters, cooling pad size 1100x100x1150 mm.	Ea.	59087.00	382.00	59469.00
8-1-3	Supplying and installing window wall mounting stand MS powder coated as per product requirement for air cooler	Ea.	2857.00	424.00	3281.00
SECTION 8-2 WINDOW TYPE AIR - CONDITIONERS					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-2-1.	Supplying and erecting approved make window type Air-Conditioning machine comprising of hermetically sealed rotary compressor, condensing & evaporating unit, fan/blower motor, thermostat, relay, remote hand sets etc suitable for				
	(1)For ISEER Range (KWH/KWH)(3.1 to 3.99)				
	(a) 1 Ton Capacity	Ea.	18282.00	1272.00	19554.00
	(b) 1.5 Ton Capacity	Ea.	21095.00	1272.00	22367.00
	[c.] 2 Ton Capacity	Ea.	25782.00	1272.00	27054.00
	(2)For ISEER Range (KWH/KWH)(4.0 to 4.49)				
	(a) 1.5 Ton Capacity	Ea.	29532.00	1272.00	30804.00
8-2-2	Installation charges for window type air-conditioning machine by making modification to the window, if necessary by providing wooden frame made of solid wood of good quality polished for proper support of the unit blocking the side opening if any, around the unit, but within the window frame by asbestos cement sheet or hard wood from inside and outside placing the unit inside the frame and starting the unit complete with necessary painting.	Job	1220.00	424.00	1644.00
8-2-3	Installation charges for WT AC in existing window opening with minor civil work covering of opening.	Job	254.00	424.00	678.00
SECTION - 8 - 3 SPLIT AIR-CONDITIONERS					
Note :- Premium category:O-General, Mitsubishi electric					
8-3-1.	Providing and erecting approved make split air-conditioning unit consisting of copper condensing unit with fan motor, hermetically sealed rotary compressor with accessories etc. duly connected separately erected evaporating unit and blower motor with its accessories by means of extra supplied proper insulated copper tubing, drain PVC pipes suitable for (cost includes powder coated Stand, Eco Friendly green gas charging, 15A plug top & Remote Control) with necessary core cutting.				
	(1)For ISEER Range (KWH/KWH)(3.1 to 3.99)				
	[a] For 1 Ton Capacity	Ea.	28942.00	1467.00	30409.00
	(b) for 1.5 ton capacity	Ea.	34988.00	1467.00	36455.00
	(c) for 2 ton capacity	Ea.	44363.00	1467.00	45830.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(2)For ISEER Range (KWH/KWH)(4.0 to 4.49)				
	[a] For 1 Ton Capacity	Ea.	33806.00	1467.00	35273.00
	(b) for 1.5 ton capacity	Ea.	43295.00	1467.00	44762.00
	(c) for 2 ton capacity	Ea.	56756.00	1950.00	58706.00
	(1)For ISEER Range (KWH/KWH)(3.1 to 3.99) Premium Category				
	[a] For 0.8 to 1.0 Ton Capacity	Ea.	37519.00	1467.00	38986.00
	(b) for 1.5 ton capacity	Ea.	50456.00	1467.00	51923.00
	(c) for 1.7 to 2.0 ton capacity	Ea.	56756.00	1950.00	58706.00
	(d) for 2.2 to 2.5 ton capacity	Ea.	66253.00	2196.00	68449.00
8-3-2.	Providing and erecting <u>Inverter</u> based approved make split air-conditioning unit consisting of condensing unit with variable speed fan motor, inverter type hermetically sealed rotary compressor with accessories etc. duly connected separately erected evaporating unit and blower motor with its accessories by means of extra supplied proper insulated copper tubing, drain PVC pipes suitable for (cost includes Eco Friendly green gas charging and 15A plug top & Remote Control & MS Stand) with necessary core cutting.				
	(1)For ISEER Range (KWH/KWH)(3.1 to 3.99)				
	(A) for 0.8 to 1.0 ton capacity	Ea.	33750.00	1467.00	35217.00
	(A) for 0.8 to 1.0 ton capacity - Premium Cat.	Ea.	36516.00	1467.00	37983.00
	(B) for 1.5 ton capacity	Ea.	39845.00	1467.00	41312.00
	(B) for 1.5 ton capacity - Premium Cat.	Ea.	46313.00	1467.00	47780.00
	(C) for 1.7 to 2 ton capacity	Ea.	49688.00	1467.00	51155.00
	(C) for 1.7 to 2 ton capacity - Premium Cat.	Ea.	54329.00	1467.00	55796.00
	(D) for 2.2 to 2.5 ton capacity	Ea.	83438.00	2196.00	85634.00
	(D) for 2.2 to 2.5 ton capacity- Premium Cat.	Ea.	97969.00	2196.00	100165.00
	(2)For ISEER Range (KWH/KWH)(4.0 to 4.49)				
	(A) for 0.8 to 1.0 ton capacity	Ea.	36563.00	1467.00	38030.00
	(A) for 0.8 to 1.0 ton capacity- Premium Cat.	Ea.	42750.00	1467.00	44217.00
	(B) for 1.5 ton capacity	Ea.	45938.00	1467.00	47405.00
	(B) for 1.5 ton capacity- Premium Cat.	Ea.	53176.00	1467.00	54643.00
	(C) for 1.7 to 2 ton capacity	Ea.	60938.00	2196.00	63134.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(C) for 1.7 to 2 ton capacity-Premium Cat.	Ea.	69469.00	2196.00	71665.00
8-3-3.	Providing and erecting approved make Cassette type split air-conditioning unit consisting of condensing unit with fan motor, hermetically sealed scroll/rotary compressor with accessories etc. duly connected separately erected evaporating unit and blower motor with its accessories by Eco friendly Green gas charging & Internal copper wiring & Remote control (3 star and above of current year) with necessary core cutting.				
	[A] For 1 Ton Capacity	Ea.	34342.00	2119.00	36461.00
	(B) for 1.5 ton capacity	Ea.	46406.00	2119.00	48525.00
	(C) for 2 ton capacity	Ea.	58126.00	2119.00	60245.00
	(D) for 3 ton capacity- 1/3Phase	Ea.	88688.00	3051.00	91739.00
	(E) for 4 ton capacity- 1/3Phase	Ea.	100032.00	3051.00	103083.00
8-3-4.	Providing and erecting <u>Inverter based</u> approved make Cassette type split air-conditioning unit consisting of condensing unit with fan motor, hermetically sealed scroll/rotary compressor with accessories etc. duly connected separately erected evaporating unit and blower motor with its accessories by Eco friendly Green gas charging & Internal copper wiring & Remote control (3 star and above of current year) with necessary core cutting.				
	(A) for 1.5 ton capacity	Ea.	66563.00	2119.00	68682.00
	(B) for 2 ton capacity	Ea.	77813.00	2119.00	79932.00
	(C) for 3 ton capacity- 1/3Phase	Ea.	128438.00	2119.00	130557.00
	(D) for 4 ton capacity- 1/3Phase	Ea.	157500.00	2119.00	159619.00
8-3-5.	Supplying & installing MS standard type stand mounting for outdoor unit of Split A.C. upto 4 TR capacity erected with necessary hardware materials as directed.	Ea.	611.00	128.00	739.00
8-3-5	Supplying and erecting insulated pair of soft copper tubing open or concealed including power and control cable,necessary PVC drain pipes for Split AC machine up to 4 TR capacity	Rmt.	854.00	102.00	956.00
8-3-6	Supplying and installing MS angle , powder coated / Painted standard type of wall/floor stand mount for outdoor unit of split AC of following capacity, erected with necessary hardware materials as directed.	Ea.	1220.00	128.00	1348.00
	(A) 25mm*25mm*3mm thick M.S angle suitable for upto 2 TR. Capacity of ac machine	Ea.	1220.00	85.00	1305.00
	(B) 35mm*35mm*5mm thick M.S angle suitable for above 2 TR to 4 TR Capacity of ac machine	Ea.	1343.00	153.00	1496.00
8-3-7	Supplying & installing Floor mounted tower type AC having 2.0 Ton capacity unit consisting of Scroll/ rotary compressor operating on 1 phase 230V / 50Hz duly filled with refrigerant (green Gas) with remote control operation	Ea.	70126.00	1399.00	71525.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-3-8	Supplying & installing Floor mounted tower type AC having 3 ton capacity unit consisting of Scroll/ rotary compressor operating on 3 phase 415V / 50Hz duly filled with refrigerant (Green Gas) with remote control operation	Ea.	91782.00	1865.00	93647.00
8-3-9	Supplying & installing Floor mounted tower type AC having 4 ton capacity unit consisting of Scroll/ rotary compressor operating on 3 phase 415V / 50Hz duly filled with refrigerant (Green Gas) having cooling capacity upto 48000btu/hr compatible with remote control operation	Ea.	103642.00	2331.00	105973.00
8-4 DUCTABLE SPLIT AIR CONDITIONERS Premium category					
8-4-1.	Providing and erecting approved make ductable split Air Conditioning unit each consist of remote located condensing unit and an evaporating unit complete with interconnecting insulated refrigerant piping up to 10 RMT. rigid PVC, drain piping of 10 kg / cm ² dully insulated with nitrile rubber insulation of 10 RMT with ECO Friendly Green gas. The condensing unit is complete with hermetically sealed scroll compressor & condenser unit which effectively achieves heat rejection by utilizing air of fan and coil type condenser. The evaporating unit will be complete with DX evaporator centrifugal blower, blower motor along with microprocessor biased remote controller with memory backup etc.				
A	(A) For 5.5 Ton	Ea.	144019.00	4450.00	148469.00
B	(B) For 8.5 Ton	Ea.	186788.00	6679.00	193467.00
C	(C) For 11 Ton	Ea.	243638.00	8899.00	252537.00
D	(D) For 16.5 Ton	Ea.	341092.00	13349.00	354441.00
E	(E) For 22 Ton	Ea.	402806.00	17798.00	420604.00
8-5 / FLOOR MOUNTED PACKAGED A.C. UNITS Premium category					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-5-1.	<p>Providing installing, commissioning, testing approved make air cooled package units of following capacity complete with hermetically sealed scroll compressor Of following TR @ 400 CFM(minimum) per TR capacity with maximum noise level 60 dB from 1 mtr from indoor unit and remote located condensing unit and evaporating unit with inter connecting copper refrigerant piping up to 10 RMT. comprising of following</p> <p>(A) The condensing unit complete with condenser fan motor, & the condenser which effectively achieves heat rejection by utilizing cooling medium as air, in fan and cooling type condenser</p> <p>(B) The evaporating unit complete with Scroll compressor DX coil evaporator, centrifugal blower, blower motor, starter, complete with first charge of Eco Friendly Green gas and oil with refrigerant piping, inter connecting indoor and outdoor unit and drain canvass connection & condenser M.S. structure with red oxide and/or RCC Pedestal and approved paints</p>				
	[A] For 5.5 TR	Ea.	126695.00	24027.00	150722.00
	[B] For 8.5 TR	Ea.	165676.00	26697.00	192373.00
	[C] For 8.75 TR	Ea.	186142.00	32036.00	218178.00
	[D] For 11 TR	Ea.	224148.00	40045.00	264193.00
	[E] For 16.5 TR	Ea.	331342.00	44494.00	375836.00
	[F] For 22 TR	Ea.	389813.00	48944.00	438757.00
	[G] For 24TR	Ea.	458035.00	49833.00	507868.00
	[H] For 36TR	Ea.	682172.00	53393.00	735565.00
	[I] For 48 TR	Ea.	779626.00	57842.00	837468.00
	[J] For 60 TR	Ea.	1013513.00	64071.00	1077584.00
	[K] For 80TR	Ea.	1266892.00	80089.00	1346981.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-5-2.	Providing installing, commissioning, testing approved make water cooled package units of following capacity complete with hermetically sealed scroll compressor Of following TR @ 400 CFM(minimum) per TR capacity with maximum noise level 60 dB from 1 mtr from indoor unit comprising of following The unit complete with Scroll compressor, Shell & Tube type condenser, DX coil evaporator, centrifugal blower, blower motor, micro processor based controller, complete with first charge of Eco Friendly Green gas and oil with refrigerant piping, drain connection, canvass connection etc.				
	(A) For 5.5 TR	Ea.	146185.00	17798.00	163983.00
	(B) For 11 TR	Ea.	258253.00	26697.00	284950.00
	(C) For 16.5 TR	Ea.	377363.00	31146.00	408509.00
	(D) For 26TR	Ea.	438545.00	40045.00	478590.00
	(E) For 39TR	Ea.	633450.00	48944.00	682394.00
	(F) For 52 TR	Ea.	828356.00	55173.00	883529.00
	(G) For 85 TR	Ea.	1335113.00	64071.00	1399184.00
SECTION - 8 - 6 VARIABLE REFRIGERANT VOLUME SYSTEM Premium category					
Note	1.consider 1 H.P=0.8 TR for estimation				
	2.for heating requirement ,add 5% more in item no.8-6-1				
	3. minimum two compressors for above or equal 12 HP modules in design while approval.				
	OUTDOOR UNIT				
8-6-1.	Supply Installation, Testing & Commissioning of modular type Variable Refrigerant Volume air cooled Outdoor units suitable for cooling and heating, having all hermetically sealed inverter type Scroll Compressor(s), microprocessor based Controller, top discharge type condensing unit(s), with R410 A Refrigerant (Or Eco Friendly Green Gas if any), vibration isolators, with suitable foundation, MS Stand for Unit with necessary paint etc. complete as required. The unit shall deliver the rated capacity at AHRI Conditions and work even at 50°C ambient temperature without tripping. The unit shall be suitable to work on 400V +/- 10%, 3 Phase, 50Hz AC power supply. The unit shall be filled with first charge of the refrigerant and ready for use as required. The COP at AHRI conditions shall not be less than 3.1 and IEER not less than 6.5. (Design should be got approval before execution from engineer in charge)	Per Hp	20953.00	1060.00	22013.00
INDOOR UNIT-CASSETTE TYPE					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-6-2.	Supply, installation, testing and commissioning of following minimum capacity 4-way/2 way/radial flow as per approval VRV Cassette Type Indoor ceiling mounted unit equipped with synthetic washable media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX Copper coil, electronic expansion valve, outer cabinet, drain pump, grill, necessary supports, vibration isolation, cord less remote control etc., suitable for operation on single phase 230 V \pm 10%, 50Hz AC supply, max noise level 60dB @ 400 cfm per TR(minimum) complete, as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature fresh air provision compatible for Remote Operation System				
	(A) 0.8 TR	Ea.	24000.00	1272.00	25272.00
	(B) 1 TR	Ea.	25876.00	1272.00	27148.00
	(C) 1.2 TR	Ea.	26250.00	1272.00	27522.00
	(D) 1.6 TR	Ea.	27000.00	1272.00	28272.00
	(E) 2 TR	Ea.	27282.00	1441.00	28723.00
	(F) 2.4 TR	Ea.	27892.00	1441.00	29333.00
	(G) 2.8 TR	Ea.	28126.00	1695.00	29821.00
	(H) 3.2 TR	Ea.	28595.00	1865.00	30460.00
	(I) 3.6 TR	Ea.	28782.00	2119.00	30901.00
	(J) 4 TR	Ea.	29063.00	2543.00	31606.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
INDOOR UNIT-HIGH WALL TYPE					
8-6-3.	Supply, installation, testing and commissioning of following minimum capacity VRV High wall type Indoor unit equipped with washable synthetic media pre-filter, fan section with noise level maximum 60 dB @min 400 cfm /dynamically balanced blower, multispeed motor, coil section with DX copper coil, electronic expansion valve, outer cabinet, cord less remote control, drain pan, necessary accessories etc., suitable for operation on 230 V \pm 10%, 50 Hz, single phase AC supply, complete as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.				
	(A) 0.8 TR	Ea.	16406.00	678.00	17084.00
	(B) 1 TR	Ea.	16688.00	678.00	17366.00
	(C) 1.3 TR	Ea.	17906.00	848.00	18754.00
	(D) 1.65 TR	Ea.	18282.00	933.00	19215.00
	(E) 2 TR	Ea.	19219.00	1272.00	20491.00
INDOOR UNIT-DUCTABLE TYPE					
8-6-4.	Supply, installation, testing and commissioning of following minimum capacity and external static pressure VRV ceiling mounted ductable type Indoor unit equipped with washable synthetic media pre-filter, fan section with low noise fan/dynamically balanced blower, multispeed motor, coil section with DX copper coil, electronic expansion valve, corded remote control, outer cabinet, vibration isolators, drain pan, other necessary supports etc., suitable for operation on single phase AC supply 230 V \pm 10%, 50 Hz complete as required. The unit shall have automatic force shut down provision in case of fire on receiving signal from BMS System. The cooling capacity of indoor unit will be at air inlet conditions of 27 Degree C DB and 19 Degree C WB temperature.				
	Low static ductable units (minimum 25 pascal external static pressure) .				
	(A) 0.6 TR	Ea.	22969.00	1017.00	23986.00
	(B) 0.8 TR	Ea.	24000.00	1017.00	25017.00
	(C) 1 TR	Ea.	25219.00	1272.00	26491.00
	(D) 1.3 TR	Ea.	27892.00	1272.00	29164.00
	(E) 1.4 TR	Ea.	29532.00	1441.00	30973.00
	(F) 1.6 TR	Ea.	30000.00	1526.00	31526.00
	Mid Static Ductable units (minimum 45 pascal external static pressure)				
	(A) 1.8 TR	Ea.	32345.00	1695.00	34040.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(B) 2 TR	Ea.	32813.00	1695.00	34508.00
	(C) 2.3 TR	Ea.	34453.00	2034.00	36487.00
	(D) 2.6 TR	Ea.	34922.00	2119.00	37041.00
	(E) 2.8 TR	Ea.	36329.00	2204.00	38533.00
	(F) 3.4 TR	Ea.	38438.00	2543.00	40981.00
	(G) 4 TR	Ea.	40782.00	2967.00	43749.00
	High Static Ductable units (minimum 110 pascal external static pressure)				
	(A) 5.5 TR	Ea.	70313.00	3390.00	73703.00
	(B) 7.1 TR	Ea.	73126.00	3814.00	76940.00
	(C.) 8 TR	Ea.	76876.00	4238.00	81114.00
COPPER REFRIGERANT PIPING					
NOTE:- 1)The Copper Piping & Piping Circuit should be with Minimum Number of joints, which shall be attained by : (1) Using One End Expanded Tubes (2) Bending the tubes instead of using elbow joints wherever 90 degree bending is required. (3) Piping should be routed at site in such a manner, that brazed joints in the refrigeration piping are kept to a minimum. (4) The makes of tube fittings shall be same as that of tubes. (5) The thickness of fittings used shall be same as that of the pipe.					
8-6-5.	Supply, Installation, testing and commissioning including vaccumiazation and Nitrogen testing of following nominal sizes of soft/hard drawn copper refrigerant piping for VRV system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/brazing including accessories, insulated with XPLE Class-0 tubular insulation/with Class-0 closed cell elastometric nitrile rubber tubular sleeves sections of specified thickness as given below for Suction and Liquid lines, all accessories as per specifications etc with necessary refrigerant joint as required :				
	(A) 6.4 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	224.00	43.00	267.00
	(B) 9.5 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	316.00	51.00	367.00
	(C.) 12.7 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	438.00	68.00	506.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(D) 15.86 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	581.00	77.00	658.00
	(E) 19 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	682.00	94.00	776.00
	(F) 22.2 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	834.00	119.00	953.00
	(G) 25.4 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	988.00	136.00	1124.00
	(H) 28.58 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm with 19 mm thick insulation	Mtr.	1038.00	153.00	1191.00
	(I) 31.8 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	1079.00	170.00	1249.00
	(J) 34.9 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	1109.00	204.00	1313.00
	(K) 38.1 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	1120.00	229.00	1349.00
	(L) 41.27 mm dia (OD) (Hard drawn) with tube thickness 1.62 mm with 19 mm thick insulation	Mtr.	1181.00	246.00	1427.00
Control Cables and Wires					
8-6-6.	Supply installation testing commissioning Shielded Shielded Control Cables for VRV System with necessary ISI mark Medium class rigid PVC pipes with necessary accessories with termination in machine and control equipments..				
	(A) 2C X 1.5 Sq mm Shielded Armoured	Mtr.	133.00	9.00	142.00
	(B) 3C X 1.5 Sq mm Shielded Armoured	Mtr.	143.00	9.00	152.00
	(C) 4C X 1.5 Sq mm Shielded Armoured	Mtr.	184.00	17.00	201.00
8-6-7.	Central Control System				
	(A) Cord type remote control with thermostat, LED Display and internal wiring for Cassette, FCU & CSU	Nos.	1658.00	178.00	1836.00
	(B) Central wired Remote Control System	Per HP	1526.00	128.00	1654.00
SECTION 8-7					
INSULATION AND MISCELLANEOUS PIPES WORKS					
8-7-1	Supplying colourless, odourless, non-flammable gas R-22(CHF2CL)	Kg.	509.00	0.00	509.00
8-7-2	Supplying colourless non inflammable refrigerant Gas R-410	Kg.	916.00	0.00	916.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION - 8-8 AIR HANDLING UNITS Premium category					
NOTE	While Designing Chilled Water Central Air Conditioning Plant - Chillers, Primary pumps, Secondary pumps, and High Side Equipments will be getting from market and chose latest or appropriate technology for execution, and rate is as per current market.				
	* FOR CONVERTING CFM INTO CMH,APPLY FACTOR OF 1.70				
	*add 10% more for AHU with DX type in item no.8-8-1 to 8-8-3				
8-8-1.	Supplying, erecting & commissioning approved make Horizontal Ductable type/Ceiling suspended chilled water air handling unit made of 25mm thick. consisting of preplasticized G.I. casing of 0.8mm thick outer layer and 0.8mm inside layer with polyethylene foam (PUF) insulation factory injected between them by injection moulding machine complete with following capacities complete with multiple variable speed suitable static pressure centrifugal blower, 4 rows cooling coil, filter section with 15-micron synthetic non woven pre filters with GI sheet housing duly powder coated, belt/direct driven drive package with TEFC drive motor suitable for 415+/-10% volts,50Hz,3 phase A.C. supply, stainless steel drain pan with sandwich PUF insulation & drain connection,room - thermostats, control panel etc.				
	(A) 1200 CFM & 3 TR capacity	Ea.	38982.00	3204.00	42186.00
	(B) 2200 CFM & 5 TR capacity	Ea.	48732.00	3204.00	51936.00
	(C.) 3200 CFM & 7.5 TR capacity	Ea.	58472.00	4009.00	62481.00
	(D) 4500 CFM & 10 TR capacity	Ea.	77963.00	4009.00	81972.00
8-8-2.	Supply, Installation, Testing and commissioning of factory built floor mounted chilled water double skin type horizontal/vertical air handling units made of 25mm thick panels consisting of pre plasticized G.I. casing of thickness 0.8mm outside layer and 0.8 mm inside layer with polyurethane foam (PUF) insulation factory injected between them by injection moulding machine, complete with blower section with blower suitable for static pressure as required, minimum 2 bend GSS/PVC eliminators, cooling coil section with aluminium finned copper tubes (tubes thickness not less than 0.5mm) cooling coil of 6 row deep, filter section with 50mm thick metal viscous/ washable synthetic type air prefilters, belt drive package with TEFC drive motor of efficiency class IE3 suitable for 415 ± 10% volts, 50Hz, 3 Phase AC supply with suitable variable frequency drive control panel, drain connections,				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	stainless steel (18G) drain pan with PUF insulation, 150 mm dia. dial type pressure gauges (2 nos.) and industrial type thermometers (2 nos.) at the inlet and outlet of coil, auto purge valve wherever required, necessary vibration isolation arrangement etc. complete as per specification and of following capacities.				
	(A) 2500 CFM	Set	97369.00	6145.00	103514.00
	(B) 3000 CFM	Set	114545.00	7213.00	121758.00
	(C.) 4000 CFM	Set	128719.00	8103.00	136822.00
	(D) 5000 CFM	Set	159460.00	10094.00	169554.00
	(E) 6000 CFM	Set	183900.00	11662.00	195562.00
	(F) 7000 CFM	Set	208998.00	13171.00	222169.00
	(G) 8000 CFM	Set	224476.00	14238.00	238714.00
	(H) 9000 CFM	Set	254448.00	16018.00	270466.00
	(I) 1000 CFM	Set	269260.00	17001.00	286261.00
	(J) 11000 CFM	Set	297572.00	18781.00	316353.00
	(K) 12000 CFM	Set	319688.00	20205.00	339893.00
	(L) 14000 CFM	Set	350550.00	22163.00	372713.00
	(M) 17000 CFM	Set	370210.00	23408.00	393618.00
	(N) 20000 CFM	Set	410316.00	25985.00	436301.00
	(O) 23000 CFM	Set	470213.00	29722.00	499935.00
8-8-3.	Supply, Installation, Testing and commissioning of factory built floor mounted chilled water double skin type horizontal/vertical air handling units made of 25mm thick panels consisting of pre plasticized G.I. casing of thickness 0.8mm outside layer and 0.8 mm inside layer with polyurethane foam (PUF) insulation factory injected between them by injection moulding machine, complete with blower section with blower suitable for static pressure as required, minimum 2 bend GSS/PVC eliminators, cooling coil section with aluminium finned copper tubes (tubes thickness not less than 0.5mm) cooling coil of 4 row deep, filter section with 50mm thick metal viscous/washable synthetic type air prefilters, belt drive package with TEFC drive motor of efficiency class IE3 suitable for 415 ± 10% volts, 50Hz, 3 Phase AC supply with suitable variable frequency drive control panel, drain connections.				
	stainless steel (18G) drain pan with PUF insulation, 150 mm dia. dial type pressure gauges (2 nos.) and industrial type thermometers (2 nos.) at the inlet and outlet of coil, auto purge valve wherever required, necessary vibration isolation arrangement etc. complete as per specification and of following capacities.				
	(A) 2500 CFM	Set	85800.00	5433.00	91233.00
	(B) 3000 CFM	Set	10706.00	6323.00	17029.00
	(C.) 4000 CFM	Set	112369.00	7119.00	119488.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(D) 5000 CFM	Set	139042.00	8721.00	147763.00
	(E) 6000 CFM	Set	162666.00	10238.00	172904.00
	(F) 7000 CFM	Set	182092.00	11569.00	193661.00
	(G) 8000 CFM	Set	196838.00	12459.00	209297.00
	(H) 9000 CFM	Set	223706.00	14238.00	237944.00
	(I) 1000 CFM	Set	235426.00	14866.00	250292.00
	(J) 11000 CFM	Set	257598.00	16289.00	273887.00
	(K) 12000 CFM	Set	279329.00	17620.00	296949.00
	(L) 14000 CFM	Set	302063.00	16730.00	318793.00
	(M) 17000 CFM	Set	338945.00	21451.00	360396.00
	(N) 20000 CFM	Set	375619.00	23764.00	399383.00
	(O) 23000 CFM	Set	430369.00	27231.00	457600.00
8-8-4.	Rigid UPVC drain pipe of 10 Kg/cm2. rating with 9 mm thick.nitrile rubber insulation.				
	(A) 50 mm dia.	Rmt.	102.00	26.00	128.00
	(B) 40 mm dia.	Rmt.	82.00	26.00	108.00
	(C.) 32mm dia.	Rmt.	61.00	26.00	87.00
	(D) 25 mm dia.	Rmt.	61.00	26.00	87.00
	(E) 19 mm dia.	Rmt.	41.00	26.00	67.00
8-8-5.	Supplying, installing & commissioning approved make Horizontal ceiling suspended or vertical floor mounted fan coil unit with thermostats expansion valve comprising main features of following specification (a) Blowers: - The centrifugal blowers having forward curves, driven by extended motor shafts. The heavy gauge M.S. scrolls controls air pattern shall be provided to avoid turbulence & noise. The motor shall be 3 speed permanent split condenser types with manual speed selection.				
	(b)Cooling Coils :- Made of 3/4 row deep drawn copper tubing with aluminium fins with drain connections. Water inlet & outlet connection shall be provided with a flare nut for connection to the control valve. The coils shall be furnished with left or right hand connections. (c)Cabinet: - The panels shall be reinforced & the bottom panel shall be insulated with 15mm thick thermocol to prevent sweating.				
	(d) Drain Pans: - Drain Pans shall be liberally sized, insulated & extends full width of coils & return bends to catch moisture, with provision of two drains. (e)Air vent :- A twist of spanner opens the standard manual air vent to purge the air out of the coil. The FCU comprising fan grills & the entire body painted with powder coating & aesthetically mounted as per requirement with necessary alteration to civil works with finishing complete @350 CFM PER TR (MINIMUM) ,MAX NOISE LEVEL 50-60 dB of following size.				
	(A) 1 TR Capacity FCU	Ea.	7800.00	890.00	8690.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(B) 1.5 TR Capacity FCU	Ea.	9750.00	890.00	10640.00
	(C) 2 TR capacity FCU	Ea.	11700.00	890.00	12590.00
	(D) 2.5 TR Capacity FCU	Ea.	14626.00	890.00	15516.00
SECTION 8 - 9					
INSULATION WORK					
8-9-1.	Supplying & fixing 50mm thick TF quality expanded polystyrene for underdeck insulation on slab/wall /shaft exposed to sun/atmosphere as per specifications.	Sq.Mtr	336.00	73.00	409.00
8-9-2.	providing and erecting Highly flexible, fibre free insulation laminated with an embossed silver-colour foil for enhanced aesthetic and mechanical protection. The closed cell insulation material with superior performance in fire safety and maintenance is used for the protection of HVAC ducts, especially in the clean room conditions of pharmaceuticals industries. Key Features <ul style="list-style-type: none"> • Pre-covered insulation with excellent aesthetics • Low Thermal Conductivity, $\lambda 0^{\circ}\text{C} \leq 0.035 \text{ W}/(\text{m}\cdot\text{K})$ • Excellent Water vapour Diffusion Resistance, $\mu \geq 60,000$ • Easy to clean and maintain • Class 0 fire classification to BS 476 part 6 & 7 • Durable and high resistance to mechanical abuse 	Sq.Mtr	611.00	73.00	684.00
INSULATION ON EXISTING PIPE					
8-9-2.	Supplying, laying/ fixing, testing and commissioning of following thickness resin bonded fiber glass pipe section insulation having density 80 kg/cum or mineral wool (non combustible) having density of 144 Kg/cu m duly covered with a layer of 120 gm/sq.m polythene sheet (vapour barrier) on existing pipe and finally applying 0.63mm aluminium sheet cladding complete with type3 , grade 1 roofing felt strip(as per IS:1322 as amended up to date) at joints etc. as per specifications and as required.				
	(A) 75 mm	sq mtr	2838.00	361.00	3199.00
	(B) 65 mm	sq mtr	2579.00	318.00	2897.00
	(C.) 50mm	sq mtr	2497.00	297.00	2794.00
	(D) 40mm	sq mtr	2291.00	272.00	2563.00
	(E) 25mm	sq mtr	1834.00	255.00	2089.00
SECTION 8 - 10					
PIPING WORK					
INSULATED CHILLED WATER PIPING (Nitrile rubber insulation)					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-10-1.	<p>Supplying, laying/ fixing, testing and commissioning of following nominal sizes of chilled water piping inside the building (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) duly insulated with following closed cell elastometric nitrile rubber of minimum 45 Kg / cu m density, thermal conductivity 0.037 W/MK or better at 20 deg mean temperature class 'O' insulation applied by suitable adhesive complete including repairing of damage to building etc. as per specifications and as required complete in all respect.</p> <p>Note:- The Pipes of sizes 150mm & below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. and from minimum 7mm thick MS sheet for pipes of 400 mm dia and above.</p>				
	(A) 400mm dia.(32 mm thick insulation)	Mtr	13740.00	1467.00	15207.00
	(B) 350mm dia.(32 mm thick insulation)	Mtr	8584.00	1170.00	9754.00
	(C.) 300mm dia. (32 mm thick insulation)	Mtr	7343.00	975.00	8318.00
	(D) 250mm dia.(32 mm thick insulation)	Mtr	6306.00	882.00	7188.00
	(E) 200mm dia.(32 mm thick insulation)	Mtr	5116.00	831.00	5947.00
	(F) 150mm dia. (32 mm thick insulation)	Mtr	3418.00	780.00	4198.00
	(G) 125mm dia.(32 mm thick insulation)	Mtr	3031.00	780.00	3811.00
	(H) 100mm dia. (32 mm thick insulation)	Mtr	2420.00	738.00	3158.00
	(I) 80mm dia.(32 mm thick insulation)	Mtr	1820.00	687.00	2507.00
	(J) 65mm dia(32 mm thick insulation)	Mtr	1465.00	687.00	2152.00
	(K) 50mm dia(32 mm thick insulation)	Mtr	1302.00	636.00	1938.00
	(L) 40mm dia. (32 mm thick insulation)	Mtr	1079.00	636.00	1715.00
	(M) 32 mm dia(19 mm thick insulation)	Mtr	886.00	636.00	1522.00
	(N) 25 mm dia(19 mm thick insulation)	Mtr	733.00	585.00	1318.00
INSULATED CHILLED WATER PIPING (expanded polystyrene insulation)					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-10-2.	Supplying, laying/ fixing, testing and commissioning of following nominal sizes of chilled water piping plumbing inside the building (with necessary clamps, vibration isolators and fittings but excluding valves, strainers, gauges etc.) duly insulated with fire retardant quality expanded polystyrene moulded pipe section of density 20 kg/cu.m after a thick coat of cold setting adhesive (CPRX compound) wrapping with 500g polythene faced hessian and finally applying 0.63mm aluminium sheet cladding complete with type3 , grade 1 roofing felt strip(as per IS:1322 as amended up to date) at joints repairing of damage to building etc. as per specifications and as required complete in all respect. Note:- The Pipes of sizes 150mm & below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. and from minimum 7mm thick MS sheet for pipes of 400 mm dia and above.				
	(A) 400mm dia.(75 mm thick insulation)	Mtr	15234.00	1467.00	16701.00
	(B) 350 mm dia.(75 mm thick insulation)	Mtr	10079.00	1170.00	11249.00
	(C.) 300 mm dia.(75 mm thick insulation)	Mtr	8747.00	975.00	9722.00
	(D) 250mm dia.(75 mm thick insulation)	Mtr	7313.00	882.00	8195.00
	(E) 200mm dia (75 mm thick insulation)	Mtr	6204.00	831.00	7035.00
	(F) 150mm dia. (75 mm thick insulation)	Mtr	4038.00	780.00	4818.00
	(G) 125mm dia.(50mm thick insulation)	Mtr	3397.00	780.00	4177.00
	(H) 100mm dia.(50mm thick insulation)	Mtr	2950.00	738.00	3688.00
	(I) 80mm dia. (50mm thick insulation)	Mtr	2360.00	687.00	3047.00
	(J) 65mm dia.(50mm thick insulation)	Mtr	2014.00	687.00	2701.00
	(K) 50mm dia.(50mm thick insulation)	Mtr	1709.00	636.00	2345.00
	(L) 40mm dia. (50mm thick insulation)	Mtr	1495.00	636.00	2131.00
	(M) 32 mm dia (50mm thick insulation)	Mtr	1313.00	636.00	1949.00
	(N) 25 mm dia (50mm thick insulation)	Mtr	1200.00	585.00	1785.00
8-10-3.	Supplying, laying, fixing, testing and commissioning of following thickness closed cell elastomeric nitrile rubber of class 'O' applied by suitable adhesive, as per specifications and as required complete in all respect.				
	(A) 32mm	Sq.Mtr.	1052.00	170.00	1222.00
	(B) 19mm	Sq.Mtr.	1254.00	128.00	1382.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-10-4.	Supplying, laying/ fixing of following thickness insulation with fire retardant quality expanded polystyrene moulded pipe section of density 20 kg/cu.m after a thick coat of cold setting adhesive (CPRX compound) wrapping with 500g polythene faced hessian and finally applying 0.63mm aluminium sheet cladding complete with type3 , grade 1 roofing felt strip(as per IS:1322 as amended up to date) at joints repairing etc. as per specifications and as required complete in all respect..				
	(A) 75mm	Sq.Mtr.	1254.00	170.00	1424.00
	(B) 50mm	Sq.Mtr.	1132.00	128.00	1260.00
INSULATED VALVES					
8-10-5.	Supplying, fixing, testing and commissioning of following valves, strainers, gauges in the chilled water plumbing duly insulated to the same specifications as the connected piping and adequately supported as per specifications.				
8-10-5(A).	providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS Disc, Nitrile Rubber Seal & O- Ring PN 16 pressure rating for chilled water/hot eater circulation as specified				
	(A) 200 mm dia	Ea.	15020.00	780.00	15800.00
	(B) 150mm dia.	Ea.	7668.00	492.00	8160.00
	(C.) 125mm dia.	Ea.	6865.00	390.00	7255.00
	(D) 100mm dia.	Ea.	6052.00	297.00	6349.00
	(E) 80mm dia.	Ea.	4322.00	195.00	4517.00
	(F) 65mm dia.	Ea.	4027.00	195.00	4222.00
	(G) 50mm dia.	Ea.	3713.00	153.00	3866.00
	(H) 40mm dia.	Ea.	3427.00	153.00	3580.00
8-10-6.	providing and erecting BALANCING VALVE WITH BUILT IN MEASURING FACILITY with C I body flanged construction with EPDM coated disc with long pitch with protected out pipe insulation & PN 16 pressure rating for chilled / hot water circulation as specified.				
	(A) 200 mm dia	Ea.	61567.00	780.00	62347.00
	(B) 150mm dia.	Ea.	31109.00	492.00	31601.00
	(C.) 125mm dia.	Ea.	23390.00	390.00	23780.00
	(D) 100mm dia.	Ea.	17807.00	297.00	18104.00
	(E) 80mm dia.	Ea.	12122.00	195.00	12317.00
	(F) 65 mm dia	Ea.	10597.00	195.00	10792.00
	(G) 50mm dia.	Ea.	8634.00	153.00	8787.00
	(H) 40 mm dia	Ea.	5299.00	153.00	5452.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-10-7.	providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating for chilled / hot water circulation including insulation as specified.				
	(A) 200 mm dia	Ea.	15794.00	1518.00	17312.00
	(B) 150mm dia.	Ea.	9713.00	933.00	10646.00
	(C.) 125mm dia.	Ea.	8340.00	780.00	9120.00
	(D) 100 mm dia	Ea.	6427.00	636.00	7063.00
	(E) 80mm dia.	Ea.	4475.00	441.00	4916.00
	(F) 65 mm dia	Ea.	4109.00	390.00	4499.00
8-10-8.	providing and erecting Y - STRAINER of Ductile CI Body flanged ends with stainless steel strainer for chilled / hot water circulation including insulation as specified.				
	(A) 200mm dia	Ea.	33774.00	1950.00	35724.00
	(B) 150mm dia.	Ea.	17268.00	1026.00	18294.00
	(C.) 125mm dia.	Ea.	16272.00	958.00	17230.00
	(D) 100 mm dia	Ea.	11492.00	670.00	12162.00
	(E) 80 mm dia	Ea.	8340.00	492.00	8832.00
	(F) 65mm dia.	Ea.	7261.00	441.00	7702.00
	(G) 50mm dia.	Ea.	5888.00	348.00	6236.00
	(H) 40mm dia.	Ea.	4170.00	246.00	4416.00
8-10-9.	Providing and fixing in position the industrial type pressure gauges with gun metal / brass valves complete as required	Ea.	1170.00	94.00	1264.00
8-10-10.	Providing & fixing in position the mercury in glass industrial type thermometers.	Ea.	1027.00	94.00	1121.00
CONDENSER WATER PIPE					
8-10-11.	Supplying, fixing, testing and commissioning of condenser water pipes of following sizes of MS 'C' class along with necessary clamps, vibration isolators and fittings such as bends,tees etc.but excluding valves, strainers, gauges etc. adequately supported on rigid supports duly painted/buried in ground excavation and refilling etc. as per specification and as required complete in all respect. Note:- The Pipes size 150mm & below shall be M.S. 'C' class as per IS : 1239 and pipes size above 150mm shall be welded black steel pipe heavy class as per IS: 3589, from minimum 6.35mm thick M.S. Sheet for pipes upto 350 mm dia. And from minimum 7mm thick MS sheet for pipes of 400 mm dia and above.				
	(A) 300mm dia.	Mtr.	6174.00	882.00	7056.00
	(B) 250 mm dia	Mtr.	5156.00	831.00	5987.00
	(C.) 200mm dia.	Mtr.	4343.00	780.00	5123.00
	(D) 150mm dia.	Mtr.	2797.00	738.00	3535.00
	(E) 125mm dia.	Mtr.	2452.00	738.00	3190.00
	(F) 100mm dia.	Mtr.	2095.00	687.00	2782.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
VALVES WITHOUT INSULATION					
8-10-12.	Supplying, fixing, testing and commissioning of following valves, gauges and strainers for condenser water circulation as per specifications.				
8-10-12(A).	providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified.				
	(A) 200mm dia.	Ea.	13495.00	1128.00	14623.00
	(B) 150mm dia.	Ea.	6367.00	543.00	6910.00
	(C.) 125mm dia.	Ea.	5614.00	475.00	6089.00
	(D) 100mm dia.	Ea.	4820.00	390.00	5210.00
	(E) 80mm dia.	Ea.	3529.00	297.00	3826.00
	(F) 65mm dia.	Ea.	3326.00	289.00	3615.00
	(G) 50mm dia.	Ea.	2981.00	246.00	3227.00
	(H) 40mm dia.	Ea.	2797.00	238.00	3035.00
8-10-13.	providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified.				
	(A) 200mm dia.	Ea.	14248.00	1170.00	15418.00
	(B) 150mm dia.	Ea.	8390.00	687.00	9077.00
	(C.) 125mm dia.	Ea.	7190.00	611.00	7801.00
	(D) 100mm dia.	Ea.	5360.00	441.00	5801.00
	(E) 80mm dia.	Ea.	3672.00	297.00	3969.00
	(F) 65mm dia.	Ea.	3367.00	289.00	3656.00
8-10-14.	Supplying, fixing, testing and commissioning of following sizes Motorized Butter fly Valve with CI Body, SS Disc,O - ring and minimum PN-16 pressure rating, conforming to BS 5155, IS 13095, with IP-55 actuator, capable of accepting upto 10V DC, and upto 20mA electric signal and providing similar transduced feedback output to control system as required.				
	(A) 350mm dia.	Nos.	122756.00	10238.00	132994.00
	(B) 300mm dia.	Nos.	110004.00	9162.00	119166.00
	(C.) 250mm dia.	Nos.	79200.00	6628.00	85828.00
	(D) 200mm dia.	Nos.	60581.00	4975.00	65556.00
	(E) 150mm dia.	Nos.	46963.00	3899.00	50862.00
	(F) 125mm dia.	Nos.	46567.00	3857.00	50424.00
	(G) 100mm dia.	Nos.	45702.00	3806.00	49508.00
	(H) 80mm dia.	Nos.	19547.00	1611.00	21158.00
	(I) 65mm dia.	Nos.	19354.00	1585.00	20939.00
	(J) 50mm dia.	Nos.	18956.00	1560.00	20516.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-10-15.	Supply, Installation, Testing and Commissioning of following sizes electronic, self-balancing, pressure independent type dynamic balancing valve with integrated 2 way modulating control valve in a single body. The actuator shall be capable of accepting upto 10V DC and upto 20mA electric signal and shall provide similar transduced feedback output to control system. Maximum close off pressure shall not be less than 6 Bar for upto 50 mm valves and 7 Bar for 65 mm & above. Valves should have pressure rating of 25 Bar minimum.				
	(A) 150mm dia.	Nos.	177052.00	14620.00	191672.00
	(B) 125mm dia.	Nos.	161188.00	13450.00	174638.00
	(C.) 100mm dia.	Nos.	126845.00	10526.00	137371.00
	(D) 80mm dia.	Nos.	75031.00	6238.00	81269.00
	(E) 65mm dia.	Nos.	58954.00	4874.00	63828.00
	(F) 50mm dia.	Nos.	38188.00	3119.00	41307.00
	(G) 40mm dia.	Nos.	34841.00	2831.00	37672.00
	(H) 32mm dia.	Nos.	18763.00	1560.00	20323.00
	(I) 25mm dia.	Nos.	17645.00	1467.00	19112.00
	(J) 20mm dia.	Nos.	12865.00	1077.00	13942.00
8 - 11 / DUCTING, GRILLS, DIFFUSER AND INSULATION					
8-11-1.	Supply, installation, balancing and commissioning of factory fabricated GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.				
	(A) Thickness 0.63 mm sheet (22 Gauge)	Sq.Mtr.	1109.00	187.00	1296.00
	(B) Thickness 0.80 mm sheet (20 Gauge)	Sq.Mtr.	1292.00	212.00	1504.00
	(C.) Thickness 1.00 mm sheet (18 Gauge)	Sq.Mtr.	1434.00	229.00	1663.00
	(D) Thickness 1.25 mm sheet (16 Gauge)	Sq.Mtr.	1882.00	280.00	2162.00
8-11-2.	Supply, installation, balancing and commissioning of fabricated at site GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.				
	(A) Thickness 0.63 mm sheet (22 Gauge)	Sq.Mtr.	1058.00	187.00	1245.00
	(B) Thickness 0.80 mm sheet (20 Gauge)	Sq.Mtr.	1241.00	212.00	1453.00
	(C.) Thickness 1.00 mm sheet (18 Gauge)	Sq.Mtr.	1638.00	229.00	1867.00
	(D) Thickness 1.25 mm sheet (16 Gauge)	Sq.Mtr.	1811.00	280.00	2091.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-11-2 E	Pre-Insulated Duct & Accessories Supply installation balancing and commissioning of pre insulated factory fabricated PIR (polyisocyanurate foam panel or board) ducts made up of CNC machine cut for internal use. The thickness of board shall be 20mm density of foam shall be 45 kg/m ³ thermal conductivity 0.020W/m.K. The aluminium foil shall be 80µ thick and provided on both sides and the foil shall be embossed. All accessories adhesive sealant and tape used in duct fabrication should be same as panel manufacturer erected with necessary supports.	Sq.Mtr.	1516.00	145.00	1661.00
8-11-3.	Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	Sq.Mtr.	7272.00	1026.00	8298.00
8-11-4.	Supply, installation, testing and commissioning of Motorized (ON-OFF Type) duct mounted GI volume control damper with enthalpy sensor and necessary control wire (minimum 1.5 sq-mm) for integration within AHU room				
	(A) Damper	Sq.Mtr.	8899.00	840.00	9739.00
	(B) Actuator	Ea.	8909.00	840.00	9749.00
8-11-5.	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers complete as per specifications and size & shape as per site requirement and approved design.	Sq.Mtr.	9488.00	840.00	10328.00
8-11-6.	Supplying & fixing of powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as per specifications and size & shape as per site requirement and approved design.	Sq.Mtr.	6163.00	840.00	7003.00
8-11-7.	Supplying, fixing testing commissioning of supply air diffuser of powder coated aluminium with aluminium volume control dampers with anti smudge ring & removable core and size & shape as per site requirement and approved design.	Sq.Mtr.	12713.00	840.00	13553.00
8-11-8.	Supplying, fixing testing commissioning of Return air diffuser of powder coated aluminium without volume control dampers with anti smudge ring & removable core and size & shape as per site requirement and approved design..	Sq.Mtr.	8461.00	840.00	9301.00
8-11-9.	Supply, installation, testing & commissioning of thermal insulated flexible duct of following sizes duly supported at regular interval as per site requirement etc. complete as required as per specifications.(A) 200 mm dia.	Mtr	611.00	85.00	696.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-11-10.	Supplying, Fixing, testing and commissioning of fire dampers in supply air duct/main branch and return air path as and where required of required sizes i/c control wiring,the damper shall be motorized and spring return so as to close the damper in the event of power failure automatically and open the same in case of power being restored. The spring return action shall be inbuilt mechanism and not externally mounted. The damper shall also be closed in the event of fire signal complete as required and as per specifications.				
	(A) Fire damper	Sq.Mtr.	11065.00	840.00	11905.00
	(B) Actuator	Ea.	10313.00	840.00	11153.00
8-11-11.	Supply and fixing of acoustic lining of supply air duct and plenum with 25 mm thick resin bonded glass wool having density of 32 kg/m ³ , with 25 mm X 25 mm GI section of 1.25 mm thick, at 600 mm centre to centre covered with Reinforced Plastic tissue paper and 0.5 mm thick perforated aluminum sheet fixed to inside surface of ducts with cadmium plated nuts, bolts, stick pins, CPRX compound etc. complete as required and as per specifications.	Sq.Mtr.	733.00	85.00	818.00
8-11-12.	Supplying, fixing acoustic lining on wall and ceiling of AHU rooms with 50mm thick, density 32 kg/cu.m resin bonded glass fiber insulation friction fixed in 610mm x 610 mm frame work made of 25X50X50X50X25 mm made out of 0.6mm thick GI sheet U shaped channel and covered with reinforced fiber glass tissue and finished with 0.80 mm perforated aluminium sheet etc. complete as required and as per specifications.	Sq.Mtr.	1282.00	170.00	1452.00
8-11-13.	Supplying and fixing of following thickness duly laminated aluminum foil of mat finish closed cell Nitrile rubber (Class "O") insulation on existing duct after applying suitable adhesive for Nitrile rubber. The joints shall be sealed with 50 mm wide and 3 mm thick self adhesive nitrile rubber tape insulation complete as per specifications and as required.				
	(A) 19mm	Sq.Mtr.	784.00	85.00	869.00
	(B) 25mm	Sq.Mtr.	1007.00	85.00	1092.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-11-14.	Supplying and fixing 50 mm thick aluminium foil faced resin bonded fibre glass insulation (on duct) of density 24 kg/cu.m or mineral wool insulation(non combustible) of density 44 kg/cu m after applying two coats of cold setting adhesive (CPRX compound) sealing all joints with self adhesive aluminium tape & covering with 0.63mmx19mm GI wire mesh netting butting all joints and laced with GI wire complete as per specifications and as required. (for indoor applications).	Sq.Mtr.	488.00	60.00	548.00
8-11-15.	Supplying and fixing 50mm thick aluminium foil faced resin bonded fibre glass insulation (on duct) of density 24 kg/cu.m or mineral wool insulation(non combustible) of density 44 kg/cum after applying two coats of cold setting adhesive (CPRX compound) sealing all joints with self adhesive aluminium tape & covering with 0.63mmx19mm GI wire mesh netting & butting all joints and laced with GI wire complete and finally covered with one layer of tar felt stuck with hot bitumen as per specifications and as required. (for outdoor applications)	Sq.Mtr.	581.00	60.00	641.00
SECTION 8-12 COOLING TOWER & MISC. ITEMS					
8-12-1.	Supplying, erecting & commissioning FRP cooling tower CTI certified with nominal capacity as mentioned below with necessary support of stand and minor civil work for foundation like P.C.C platform etc... (Mihir / Paharpur / Advance Vacun or Equivalent approved make)				
	(A) 30 TR Capacity	Ea.	63377.00	2331.00	65708.00
	(B) 40 TR Capacity	Ea.	76668.00	2331.00	78999.00
	(C.) 50 TR Capacity	Ea.	88597.00	4196.00	92793.00
	(D) 60 TR Capacity	Ea.	102997.00	4196.00	107193.00
	(E) 80 TR Capacity	Ea.	123672.00	6992.00	130664.00
	(F) 100 TR Capacity	Ea.	126133.00	9323.00	135456.00
	(G) 120 TR Capacity	Ea.	153814.00	9323.00	163137.00
	(H) 150 TR Capacity	Ea.	203034.00	13984.00	217018.00
	(I) 200 TR Capacity	Ea.	246102.00	23307.00	269409.00
8-12-2.	carry out RCC Core cutting- up to 100 mm dia./200mm thick Wall/beam/slab with providing PVC pipe of 3 mm thick inside and necessary finishing on both ends of wall .	Job	1018.00	170.00	1188.00
8-12-3.	carry out RCC Core cutting- up to 100 mm dia./300mm thick Wall/beam/slab with providing PVC pipe of 3 mm thick inside and necessary finishing on both ends of wall .	Job	1322.00	212.00	1534.00
SECTION 8-13. WATER COOLERS					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-13-1.	Providing and erecting water cooler having storage capacity 80Ltr. & cooling capacity 40 Ltr.per hour @ an ambient temp of 45° C. The outlet temp. of the water should drop by 15° C within a hour, The water cooler should be comprising of hermetically sealed compressor, fan motor, condensing unit, water tank surrounded by evaporating coil, thermostats, relay etc. complete with necessary inlet & outlet connection. The body of water cooler will be made from Stainless Steel. °	Ea.	48814.00	255.00	49069.00
8-13-2.	Providing & erecting water cooler having storage capacity 150 Ltr. & cooling capacity 150 Ltr.per hour @ an ambient temp of 45° C. The outlet temp. of the water should drop by 15°C within a hour, The water cooler should be comprising of hermetically sealed compressor, fan motor, condensing unit, water tank surrounded by evaporating, coil, thermostats, relay etc.complete with necessary inlet & outlet connection. The body of water cooler will be made from Stainless Steel.	Ea.	54916.00	424.00	55340.00
8-13-3.	Providing & Erecting full SS Body (SS 304) Split type water cooler having storage capacity 160 to 175 Ltr.(Tank SS 304) & Cooling capacity 150 ltr. Per hour @ an ambient temp of 35 ⁰ C.The outlet temp. of the water should drop by 15 ⁰ C within a hour,The water cooler should be comprising of hermetically sealed Reciprocating compressor with R134A, fan motor, Copper Condensing unit with company fabricated Outdoor Unit water tank surrounded by evaporating coil, thermostats, relay etc.complete with necessary copper tube & Insulation, M.S Chanel Stand with Painting for water tank & M.S. Powder Coated Stand for Outdoor unit with Installation. With DPELCB and 4 Way DB Box with accessory Three core Cord for connection.	Ea.	59238.00	1272.00	60510.00
8-13-4.	Supplying and erecting approved make water filter having outer body of tough polycarbonate with fitter cartridge having filter to trap micro elements with coupling suitable for erection on pipe line.	Ea.	988.00	51.00	1039.00
8-13-5	Supplying and erecting water filter cum purifier with ultra violate technology. (Aquaguard / waterdoc model or equivalent symphony/ crystal/videocon model)	Ea.	5320.00	51.00	5371.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-13-6	Supplying & erecting 5 stage single reverse osmosis water purification system with M.S. powder coated frame, prefilter housing with 'O' ring presediment filter GAC filter, carbon filter suitable buster DC pump capacity 80 psi, mention with 40 psi inline type post carbon filter auto low & high pressure switches with following size of storage tank & LPH capacity & erected as directed	Nos.			
	[A] 10 Ltr / Hr with 7 Ltr StorageTank	Ea.	8136.00	212.00	8348.00
	[B] 25 Ltr / Hr with 30 Ltr. Storage Tank	Ea.	15254.00	212.00	15466.00
	[C] 50 Ltr / Hr with 150 psi 2 nos booster pump	Ea.	28475.00	424.00	28899.00
8-13-6	Supplying & erecting reverse osmosis (RO) water purification system with M.S. powder coated pedestal frame, prefilter housing carbon filter suitable buster DC pump, auto low & high pressure switches with following size of LPH capacity & erected as directed				
	[D] 100 LPH with 1 phase / 3 phase Raw water pump of 500LPH @ 2.5kg/cm2 - (1No - Kirloskar /CRI/Lubi), Dual media filter 10"x54" - (1 No), Micron cartridge filter 20" x 2.5" (1No), High pressure pump 500LPH @ 10kg/cm2 - (1No - Shimge /CRI /Lubi), RO Membrane housing with RO membrane of 40*40 - (1No), RO pressure tube 4" x 1E - (1No), 0 - 1200LPH Rotameter -(2 Nos), with Recovery Rate 50%.	Ea.	76272.00	848.00	77120.00
	[E] 200 LPH with 1 phase / 3 phase Raw water pump of 1000LPH @ 2.5kg/cm2 (1No - Kirloskar/CRI/Lubi) , Dual media filter 10"x54" (1 No), Micron catridge filter 20" x 2.5" - (1No), High pressure pump 1000LPH @ 10kg/cm2 - (1No - Shimge /CRI /Lubi) , RO Membrane housing with RO membrane of 40*40 - (1 No),RO pressure tube 4" x 1E-(1No), 0-1200LPH Rotameter-(2 Nos). Recovery Rate 50%.	Ea.	91526.00	1017.00	92543.00
	[F] 500 LPH with 3 phase Raw water pump of 1000LPH @ 3.0 kg/cm2 (1No - Kirloskar /CRI /Lubi), Dual media filter 13"x54" - (1No), Micron catridge filter 20" x 4.0"-1No, High pressure pump 1000LPH @ 11kg/cm2 - (1No - lubi/ Shimge/ CRI), RO Membrane housing with RO membrane of 40*40 - (2 Nos), RO pressure tube 4" x 2E -(1No), 0-2400 LPH Rotameter (2Nos), , Dosing pump 0 -6 LPH - (1 No),. with 100 Ltr Dosing tank - (1 No), with Recovery Rate 50%.	Ea.	172882.00	1272.00	174154.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[G] 1000 LPH with 3 phase Raw water pump of 1700LPH @ 3.0 kg/cm ² (1No - Kirloskar/CRI/Lubi), Dual media filter 13"x54" - 1 No, Micron catridge filter 20" x 4.0" - (1No), High pressure pump 1000LPH @ 11kg/cm ² - (1No - Kirloskar/CRI/Lubi), RO Membrane housing with RO membrane of 40*40 -(4 Nos), RO pressure tube 4" x 2E-(2Nos), 0 - 2400LPH Rotameter (2 Nos). Dosing pump 0 -6 LPH (1 No) with 100 Ltr Dosing tank - (1 No.), Recovery Rate 50%.	Ea.	213560.00	1526.00	215086.00
	[H] 2000 LPH with 3 phase Raw water pump of 3400LPH @ 3.0 kg/cm ² (1No - Kirloskar /CRI /Lubi), Dual media filter 18"x65" - 1 No., Micron catridge filter 20" x 4.0" - (2Nos), High pressure pump 3400LPH @ 11kg/cm ² - (1No), Kirloskar/CRI/Lubi), RO Membrane housing with RO membrane of 80*40 - (2 Nos), RO pressure tube 8" x 2E - (1No), 0 - 3500LPH Rotameter - (2 Nos), Dosing pump 0 -6 LPH - (1 No). with 100 Ltr Dosing tank - (1 No), Recovery Rate 50%.	Ea.	330509.00	1695.00	332204.00
8-14 / Refrigerator					
8-14-1	Supplying approved make domestic refrigerator of 50/60 Ltr storage capacity, single phase minimum 3 star rating.	Ea.	7627.00	424.00	8051.00
8-14-2	Supplying approved make domestic refrigerator of 165 Ltr to 185 Ltr storage capacity, single phase minimum 3 star rating.	Ea.	14543.00	424.00	14967.00
8-14-3	Supplying approved make domestic refrigerator of 200 Ltr to 250 Ltr storage capacity, single phase minimum 3 star rating.	Ea.	19831.00	424.00	20255.00
8-14-4	Supplying frost free domestic type double door approved make refrigerator having minimum 3 star rating with 285 Ltr to 330 Ltr storage capacity operating on single phase power supply.	Ea.	32034.00	636.00	32670.00
8-14-5	Supplying & Erecting floor mounted/ table top single phase 50Hz water dispenser with SS 304 food grade cold tank specification having three water tap of hot/cold/ambient water function, LED display with storage capacity from 2.5 Ltrs to 3.2 Ltrs, cooling capacity 2.5ltrs/hr, including refrigerant with 20ltrs refrigerant storage capacity compartment inclusive 1No.water topping bottle	Ea.	11188.00	255.00	11443.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-14-6	Providing & Erecting Deep Freezers effective and economical Solutions for safe storage of perishable foods.The range of hard - top deep freezers Technical Specification Gross Capacity 400 ltr., Temp. Range -18°C to -22°C, Power Supply 230Volts, Single phase, 50Hz,Refrigerant R134A, No of lids 2,Inner Cabinet Pre-painted GP Steel, Puf Thickness 60*60,Over all No of Baskets 01,Wheels/Legs Heavy Duty Castors.	Ea.	40679.00	678.00	41357.00
8-14-7	Providing & Erecting Chest Cooler (Bottle Cooler) effective and economical Solutions for safe storage (2° C to 8° C) of perishable foods.The range of hard - top Chest cooler Technical Specification Gross Capacity 500 ltr.,Temp.Power Supply 230 Volts, single phase, 50Hz, Refrigerant R134A, No of lids 2, Inner Cabinet Pre-painted GP Steel, SS 304 Inner Tank, Puf Thickness 60 * 60, No of Baskets 01,Wheels/Legs Heavy Duty	Ea.	45763.00	678.00	46441.00
IN 8-15 / POWER CAPACITORS,UPS & VOLTAGE STAB					
8-15-1.	Supplying & erecting bank of all polypropylene condenser (APP type) with standard capacity of 2,3,5,7, 10,12.5 & 15 KVAR units of P.F. correction for operation on 3 phase 50 c/s, 400 /440V (+ / - 10%) with externally discharging resistance, earthing terminal & built on angle iron of channel iron frame work and provided with terminal cover box. Complete erected on provided iron bracket or on floor duly tested by license.	KVAR	677.00	13.00	690.00
8-15-2.	Supplying and erecting approved make surge/spike suppressor having 3 out lets of 1.8 AMP each complete erected.	Ea.	1465.00	51.00	1516.00
8-15-3.(A)	Supplying and erecting approved make single phase servo controlled voltage stabilizer suitable for input voltage range 180/250V. And output voltage range 225/235V. A.C. complete erected.				
	(A)1.0 KVA	Ea.	6306.00	85.00	6391.00
	(B) 3.0 KVA	Ea.	7984.00	85.00	8069.00
	(C) 4.0 KVA	Ea.	8747.00	85.00	8832.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-15-3.(B)	Supply and Erecting of Static Stabilizer suitable for following capacity of A.C Machine the Stabilizer Must have Minimum Technical Specification are Input working Single Phase Voltage Range Up to 150V-280V.50Hz, Output Voltage Range Up to 200V-240V,50Hz,Autoreset Facility,LED Display for Indicating Voltage,Spike/Surge Protection,Time Delay Facility,Proper Wall Mount Facility with Required Accessories & on site 3 year Replacement/Repairing Warranty. (1) For 1.5Ton Thermal Overload Protection 12 Amp.	Ea.	2915.00	85.00	3000.00
	(2) For 2 Ton Thermal Overload Protection 15 Amp.	Ea.	3905.00	85.00	3990.00
8-15-4.	Supplying and erecting approved make Single phase power conditioners suitable for input voltage 180V / 280V, output voltage 220V (+ / - 10%) AC 50 'Hz with electronic relays & component of housed in sheet metal cabinet 'with epoxy powder coated, with high - low cut-off, time delay, voltmeter, selector switch, 5/15 A universal socket with range off				
	(A) 1 KVA	Ea.	1526.00	17.00	1543.00
	(B) 2 KVA	Ea.	1963.00	17.00	1980.00
	(C) 3 KVA	Ea.	3020.00	26.00	3046.00
	(D) 4 KVA	Ea.	3174.00	26.00	3200.00
	(E) 5 KVA	Ea.	3672.00	34.00	3706.00
8-15-5.	Supplying and erecting approved make online Un-interruptible Power Supply system comprising flat cum-boost charger with IGBT base rectifier & Inverter & sealed maintenance free SMF batteries. The charger having operating capacity for input 160-270V AC & inverter having output 230V,50 Hz Ac with 0.8 load power factor with battery, over/under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following power backup.with MS painted batteries stand, 10% Overload capacity for momentary load.				
	(A) 1 KVA with 1Hr Backup	Ea.	28475.00	848.00	29323.00
	(B) 2KVA with 1Hr Backup	Ea.	46577.00	848.00	47425.00
	(C) 3 KVA with 1Hr Backup	Ea.	80848.00	1272.00	82120.00
	(D) 5 KVA with 1Hr Backup	Ea.	127120.00	1695.00	128815.00
	[E] 6 KVA with 1Hr Backup	Ea.	163578.00	13633.00	177211.00
	[G] 7.5 KVA with 1Hr Backup	Ea.	215702.00	17977.00	233679.00
	[H] 10 KVA with 1Hr Backup	Ea.	245165.00	20432.00	265597.00
	(I) 10 KVA 3 - phase with 1Hr Backup	Ea.	266441.00	1865.00	268306.00
	(J) 20 KVA 3 - phase with 1Hr Backup	Ea.	391526.00	1865.00	393391.00
	(K) 30 KVA 3 - phase with 1Hr Backup	Ea.	573560.00	1865.00	575425.00
	[L]40 KVA 3 - phase with 1Hr Backup	Ea.	1131949.00	94334.00	1226283.00
	[M]60 KVA 3 - phase with 1Hr Backup	Ea.	1609274.00	134114.00	1743388.00
	[N]80 KVA 3 - phase with 1Hr Backup	Ea.	1844095.00	153683.00	1997778.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-15-6	Supplying, installing, testing & commissioning of digital pure sine wave INVERTOR of approved make single phase 230v complete with overload relay & necessary protection with following size of batteries, erected with battery terminal wire, copper lead wire to be connected to load with 10 Amp., 10 kA MCB.				
	[A] 400 VA with battery 12V, 150 AH load up to 200 W	Ea.	9154.00	424.00	9578.00
	[B] 560VA with battery 12V, 150 AH load up to 400W	Ea.	11695.00	424.00	12119.00
	[C] 760VA with battery 12V, 150 AH Load up to 500W	Ea.	13220.00	424.00	13644.00
	[D] 800VA with battery 12V, 150 AH load up to 600 W	Ea.	17288.00	424.00	17712.00
	[E] 1400 VA with battery 12V x 2, 150 AH load up to 1000 W	Ea.	21611.00	636.00	22247.00
	[F] 2000 VA with battery 12V x 2, 150 AH load up to 1250 W	Ea.	25424.00	848.00	26272.00
SECTION 8-16 WATER HEATERS					
8-16-1.	Supplying and erecting approved make Instantaneous type water heater with 3ltr.capacity rust free container housed in ABS plastic body insulated with glass wool / puff insulation and 3 Kw heating elements,adjustable thermostat 30 ⁰ C to 85 ⁰ C with set to operate at 85 ⁰ C (+ /-6 ⁰ C) auto reset indication lamps, thermal cut-out, safety valve fusible plug etc.				
	Cat.II	Ea.	3600.00	212.00	3812.00
	Cat.III	Ea.	4115.00	212.00	4327.00
	Premium Category (Racold,A.o.Smith,Venus)	Ea.	5372.00	212.00	5584.00
8-16-2.	Supplying and erecting horizontal / vertical mounting type storage water heater with copper container housed in M.S./S.S./ABS body insulated with glass wool/puff complete with heating elements,adjustable thermostats 30 ⁰ C to 85 ⁰ C, indicating lamp, safety valve, fusible plug, etc.complete erected with coach bolts, nuts. washers & cementation				
	(A) 10 Ltr. with 3 KW. heating element				
	Cat.II	Ea.	4150.00	297.00	4447.00
	Cat.III	Ea.	6661.00	297.00	6958.00
	Premium Category	Ea.	7994.00	297.00	8291.00
	(B)15 Ltr-.with 2 /3K.W. heating element				
	Cat.II	Ea.	6672.00	297.00	6969.00
	Cat.III	Ea.	7434.00	297.00	7731.00
	Premium Category	Ea.	9122.00	297.00	9419.00
	(C)25 Ltr. with 2 KW. heating element				
	Cat.II	Ea.	8420.00	348.00	8768.00
	Cat.III	Ea.	9122.00	348.00	9470.00
	Premium Category	Ea.	10994.00	348.00	11342.00
	(D)35 ltr.with 1.5/2 KW. heating element				
	Cat.II	Ea.	9590.00	492.00	10082.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat.III	Ea.	10760.00	492.00	11252.00
	Premium Category	Ea.	11818.00	492.00	12310.00
	(E)50 Ltr. with 2 KW. heating element				
	Cat.II	Ea.	10760.00	543.00	11303.00
	Cat.III	Ea.	12988.00	543.00	13531.00
	Premium Category	Ea.	14502.00	543.00	15045.00
8-16-3.	Supplying and erecting chromium plated heavy duty brass valve for inlet pipe of water heater 15 mm dia.)	Nos.	154.00	26.00	180.00
8-16-4.	Supplying and erecting 15mm brass non-return valve for inlet pipe of storage water heater.	Nos.	204.00	26.00	230.00
8-16-5.	Supplying and erecting dead pressure releasing valve for storage type water heater with necessary materials.	Nos.	356.00	26.00	382.00
8-16-6.	Providing & erecting fibre reinforced PVC flexible pipe with brass locking nuts & washers & clips at both ends complete erected without leakage	RMT.	163.00	17.00	180.00
8-16-7	Supplying, installing, testing & commissioning of SOLAR WATER heating system as per prevailing IS code comprising of Solar flat locket collector, stainless steel hot water storage isolated tank with S.S. heat exchanger, absorber made of copper sheet & copper tube of following capacity in liter / day (LPD) with "B" size aluminium box collector with appropriate capacity electrical backup arrangement (Excluding inlet & outlet pipe lines)				
	(A) Capacity of 100 LPD	Ea.	21430.00	2543.00	23973.00
	(B) Capacity of 200 LPD	Ea.	42858.00	3390.00	46248.00
	(C) Capacity of 300 LPD	Ea.	58930.00	4238.00	63168.00
	(D) Capacity of 500 LPD	Ea.	96430.00	5085.00	101515.00
	(E) Capacity of 1000 LPD	Ea.	182143.00	5933.00	188076.00
8-16-8	Supplying & erecting resin bonded flap rock wool / glass wool with conductivity valve 1.67 sq.mm per watt & to with stand the temp. to 100 degree centigrade C thickness 50mm with G I pipe of following size dia "B" class as per IS:1239. The plastic sheet to be used as covering of glass wool. Al. cladding besides other materials like chicken mesh, 26 G Al. Sheet shall be used for cladding the insulation pipe.				
	(A) for 20 mm dia pipe	Mtr	336.00	26.00	362.00
	(B) For 25 mm dia pipe	Mtr	397.00	43.00	440.00
	(C) for 32 mm dia pipe	Mtr	479.00	51.00	530.00
	(D) for 40 mm dia pipe	Mtr	560.00	60.00	620.00
	(E) for 50 mm dia pipe	Mtr	692.00	68.00	760.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
8-16-9	Supplying & erecting 12mm composite pipe manufactured from polythene material with destructed thermal expansion of 25×10^{-6} / degree kelvin (low expansion Co-efficient), resistant to freezing thermal conductivity 0.43 watt / (m degree kelvin) UV resistant suitable for continuous operating temperature of 95 degree centigrade & rated pressure of 6.9 kg / sq.cms at 850 degree centigrade. The kitec pipe shall have chemical composition prepared as per ASTM F 1282-02 specifications (Pressure rating of 13.8 kg per sq.cms. & 11 KG per sq.cms at 60 degree) The pipe shall be duly jointed by comprising crimp fitted with internal as well as external end sealing arrangement.				
	(A) For 12 mm pipe	Mtr	199.00	17.00	216.00
	(B) For 16 mm pipe	Mtr	224.00	22.00	246.00
	(C) For 20 mm pipe	Mtr	316.00	26.00	342.00

CHEPTEr - IX Pump					
SECTION 9-1					
Motor Pump Starters & Starter Accessories					
NOTE: The head and flow of pump is showing minimum values for getting best operating efficiency.					
Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-1-1.	Supplying and erecting Direct - On - Line Starter with 18 A. rating contactor and with 3.5 Amp. 18A range directly operated in totally insulated elegant enclosure for single phase operation up to 3 HP as per IS 13947 complete erected on P.W. Block with necessary connection.				
	Cat-II	Ea.	1667.00	77.00	1744.00
	Cat-III	Ea.	2003.00	77.00	2080.00
9-1-2	Supplying and erecting Direct On-line Electronics Starter with 2-5/4-10/8-14/10-16 Amp. Rating relay (variable current setting) directly operated in totally insulated elegant enclosure and 18 Amp. Rating power relay with start - stop button for single phase operation up to 3 HP as per complete erected on P.W. Block with following features. Low voltage cut off below 140 V High voltage cut off above 280 V Overload protection Indicating LEDs for motor on lv, hv & overload tripping. [Cat.II]	Ea	1511.00	77.00	1588.00
9-1-3.	Supplying and erecting Direct-on-line, Starter with 15A.rating contractor and with 4-14A. range, directly operated thermal overload relay in sheet steel enclosure for 3phase 415V.50 c/s. A.C. motor up to 7.5 H.P.complete erected on P.W. Block with necessary connection.				
	Cat-II	Ea.	1678.00	68.00	1746.00
	Cat-III	Ea.	1958.00	68.00	2026.00
9-1-4.	Supplying and erecting Direct on line starter with 30 Amp. (resistive @ 230v) power relay and with 2 to 5/ 4 to 10 / 8 to 20 amp. Range C.T. Operated electronic overload relay in engineering grade plastic enclosure for 3 ph 415v 50 HZ A.C. motor up to 7.5 HP with high voltage protection (above 480 v) and under voltage protection (below 330 v) current sensing single phasing protection. Reverse phasing protection, inverse current characteristic overload protection with indication for On, OL, HV,LV SPP in a single unit with feather touch start / stop push button, high temperature with standing Bakelite terminals complete erected on P.W. Block with necessary connection. [Cat.II]	Ea	2070.00	77.00	2147.00
9-1-5.	Supplying and erecting push button operated fully automatic Star-Delta starter with 3 Nos. of 15A.rating contactors and directly operated thermal overload relay having 10-21A range and erected in sheet steel enclosure for 3 phase 415V. 50 c/s. A.C. motors from 7.5 to 15H.P. complete erected on				
	(A) P.W. Block with necessary connection.				
	Cat.II	Ea.	7272.00	153.00	7425.00
	Cat.III	Ea.	9509.00	153.00	9662.00
	(B) Angle iron frame add to the above	Ea.	123.00	60.00	183.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-1-6.	Supplying and erecting push button operated fully automatic Star-Delta starter with 3 Nos.of 32A. rating contactors and. 1 No. of directly operated thermal overload relay having 20-32A range in sheet steel enclosure for 3 phase 415V. 50 c/s. A.C. motors up to 35 H.P. complete erected on				
	(A)P.W.Blockwith necessary connection				
	Cat.II	Ea.	9746.00	170.00	9916.00
	Cat.III	Ea.	11780.00	170.00	11950.00
	(B) For erection on Angle iron frame add to the above.	Ea.	128.00	43.00	171.00
9-1-7.	Providing and erecting AC-3 duty 3 pole power contactor with 2 NO & 2 NC aux contacts complete with 415V/220V operating coil suitable for (L&T, BCH,T.C., Siemens, C&S make).				
	(A) for 25 / 32 A rating	Ea.	3153.00	68.00	3221.00
	(B) for 40 A rating	Ea.	4678.00	68.00	4746.00
	(C) for 60 / 70 A rating	Ea.	7984.00	77.00	8061.00
	(D) For 80 / 95 A Rating	Ea.	10119.00	77.00	10196.00
	(E) for 110 A rating	Ea.	12082.00	94.00	12176.00
9-1-8.	Providing and erecting AC-3 duty 3 pole power contactors spare kits (L & T, C&S, BCH,T.C. Siemens, make).				
	(A) for 25 / 32 A rating	Ea.	977.00	51.00	1028.00
	(B) for 40 A rating	Ea.	1943.00	51.00	1994.00
	(C) for 60 / 70 A rating	Ea.	3367.00	51.00	3418.00
	(D) For 80 / 95 A Rating	Ea.	4577.00	51.00	4628.00
	(E) for 110 A rating	Ea.	5604.00	51.00	5655.00
9-1-9.	Providing and erecting AC-3 duty 3 pole power contactor thermal over load relay (L & T BCH / Siemens, / C & S / Alstom make)				
	(A) For 4 - 15 Amp. rating	Ea.	875.00	51.00	926.00
	(B) For 25 Amp rating,	Ea.	1292.00	51.00	1343.00
	(C) For 32 Amp. rating	Ea.	1984.00	51.00	2035.00
	(D) For 40 Amp.	Ea.	1984.00	51.00	2035.00
	(E) For 48 to 70 Amp.	Ea.	3468.00	51.00	3519.00
	(F) For 80 to 110 Amp.	Ea.	3784.00	51.00	3835.00
9-1-10	Providing and erecting AC-3 duty 4 pole A.C. Coil with 2 NO & 2 NC aux contacts complete with 415V/220V operating coil suitable for (L&T, BCH,T.C., Siemens, C&S make).				
	(A) for 25 / 32 A rating	Ea.	1353.00	68.00	1421.00
	(B) for 40 A rating	Ea.	2187.00	68.00	2255.00
	(C) for 60 / 70 A rating	Ea.	5604.00	68.00	5672.00
	(D) For 80 / 95 A Rating	Ea.	8136.00	85.00	8221.00
	(E) for 110 A rating	Ea.	12204.00	94.00	12298.00
9-1-11	Providing & erecting electronic overload relay with single phasing preventer [(L&T, Alstom, BCH,T.C., Siemens, C&S make).				
	[A] for 30 to 50 Amp.	Ea.	5594.00	102.00	5696.00
	[B] for 48 to 150 Amp.	Ea.	6306.00	102.00	6408.00
9-1-12	Providing and erecting operating coil for power contactors				
	(A) for 32A/40A	Ea.	458.00	43.00	501.00
	(B) for 70A/110A	Ea.	967.00	43.00	1010.00
9-1-13	Providing & erecting motor protection circuit breaker with shock proof enclosure (IP 65) erected as per direction for following motor HP 3 phase 440V A.C.				
	[A] up to 5 Hp 7 to 10 Amp.	Ea.	3560.00	128.00	3688.00
	[B] up to 7.5 HP / 10 HP 12 to 18 Amp.	Ea.	4628.00	128.00	4756.00
	[C] up to 15 HP 18 to 26 Amp.	Ea.	5034.00	145.00	5179.00
	[D] up to 20 HP 24 to 36 Amp.	Ea.	6865.00	145.00	7010.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
SECTION 9 - 2 Meters & Panel Accessories					
9-2-1.	Supplying and erecting approved make Analog type voltmeter moving iron with square/ Round Dial, flush/pedestal mounting pattern for A.C.Voltage 0 to 500 Volt range, erected on panel board with all connection, wiring etc.	Ea.	323.00	34.00	357.00
9-2-2.	Supplying and erecting approved make panel mounting type Digital Voltmeter having 3 digits LED display, 0 to 750 AC Volts range erected on existing panel board with all connection, wiring etc .with manufacturers calibration certificate.	Ea.	1229.00	34.00	1263.00
9-2-3.	Supplying and erecting approved make Analog type moving iron Ammeter direct reading type 0- 30A AC current, 500 V square /. Round dial, flush or projection type complete erected with connection and wiring.	Ea.	280.00	34.00	314.00
9-2-4.	Supplying and erecting approved make panel mounting type Digital Ammeter having 3 digits LED display, external CT operated, calibrated for 0 to 1000 Amps suitable to operate on 500 Volt AC , erected on existing panel board with all connection, wiring etc .with manufacturers calibration certificate.	Ea.	1509.00	34.00	1543.00
9-2-5.	Supplying and erecting approved make Analog type moving iron C.T operated Ammeter A C Current suitable slide in scale 0- 400 Amp. with 3 Nos. of Current Transformer erected on panel board with connections.	Ea.	1314.00	255.00	1569.00
9-2-6.	Supplying and erecting Ammeter / Voltmeter selector switch for 3 phase AC Supply 500 V on existing panel board with necessary connections.	Ea.	280.00	34.00	314.00
9-2-7.	Providing & erecting L.T. Current Transformer with bar primary 50/5 to 1000/5 ratio 15 VA burden erected in existing CRCA box duly secured with insulating materials connected to the meter	Ea.	238.00	34.00	272.00
9-2-8.	Supplying & erecting approved make Power Factor Meter 150mm dia flush/projection type/ balanced & unbalanced load to work with appropriately provided CT's 100/5A to 400/5A ratio & other accessories complete erected in M.S. box & connected to the circuit by means of PVC copper Core leads.	Ea.	4916.00	136.00	5052.00
9-2-9.	Supplying and erecting approved make suitable panel indicator LED type lamp, lens cover, complete erected with necessary connections.	Ea.	34.00	9.00	43.00
9-2-10.	Supplying & erecting directly operated single phasing preventer complete erected and connected to supply up to 45 Amp. Range.	Ea.	1000.00	68.00	1068.00
SECTION 9-3 SINGLE PHASE MONO BLOCK PUMPS					
NOTE:The head and flow of pump is showing minimum values for getting best operating efficiency.					
9-3-1.	Supplying & erecting approved make self-priming domestic monoblock water pump with 0.5 H.P. motor, suitable for operation on 230 volts 50 c/s. AC supply with metallic flange, delivery and discharge of 32 LPM at 10 mtrs.head.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat.II	Ea.	4557.00	215.00	4772.00
	Cat.III	Ea.	6295.00	215.00	6510.00
9-3-2.	Supplying & erecting approved make self-priming domestic monoblock water pump with 1 H.P motor, suitable for operation on 230 volts, 50c/s. AC supply with metallic flange, and M.S. impeller delivery and following discharge				
	(a) 40 LPM at 24 mtrs. head suitable for 25mm dia. Delivery				
	Cat.II	Ea.	6691.00	217.00	6908.00
	Cat.III	Ea.	7386.00	217.00	7603.00
	(b) 100 LPM at 14 mtrs. head suitable for 25 mm dia. delivery				
	Cat.II	Ea.	8606.00	217.00	8823.00
	Cat.III	Ea.	9454.00	217.00	9671.00
9-3-3	Supplying & erecting approved make self-priming domestic monoblock water pump with 1.5 H.P motor, suitable for operation on 230 volts, 50c/s. AC supply with metallic flange, and M.S. impeller delivery and following discharge 44 LPM at 32 Mtr head suitable 25 mm dia delivery				
	Cat. II	Ea.	8149.00	217.00	8366.00
	Cat. III	Ea.	9005.00	217.00	9222.00
SECTION 9-4					
OPEN WELL TYPE HORIZONTAL MONO BLOCK PUMPS					
9-4-1.	Providing & erecting open well type horizontal mono block pump set with stainless steel body having following specification				
	(A) 0.5 H.P. single phase open well motor pump set having discharge of 115 LPM @ 15 mtr. head suitable for 32 mm dia. delivery pipe with control panel				
	Cat. I	Ea.	6689.00	328.00	7017.00
	Cat. II	Ea.	7528.00	328.00	7856.00
	(B) 0.75 H.P. single phase open well motor pump set having discharge of 170 LPM @ 20 mtr. head suitable for 25 mm dia delivery pipe with control panel				
	Cat. I	Ea.	7958.00	327.00	8285.00
	Cat. II	Ea.	8407.00	327.00	8734.00
	(C) 1 H.P. single phase open well motor pump set suitable for 185 LPM discharge @ 25 mtr. head, suitable for 32 mm dia. Delivery pipe with control panel.				
	Cat. I	Ea.	8623.00	327.00	8950.00
	Cat. II	Ea.	9191.00	327.00	9518.00
	(D) 1 HP Three phase open well motor pump set suitable for 190 LPM discharge @ 21 mtr. head, suitable for 32mm dia. delivery pipe.				
	Cat. I	Ea.	8289.00	327.00	8616.00
	Cat. II	Ea.	8848.00	327.00	9175.00
9-4-2.	Providing & erecting open well horizontal mono block pump set with cast iron body, complete for three phase submersible motor having				
	[A] For 1.5 HP 3 phase open well horizontal mono block pump set suitable for 190 LPM @ 20 mtr head suitable for 40 mm dia delivery pipe				
	Cat.I	Ea.	9183.00	327.00	9510.00
	Cat.II	Ea.	9856.00	327.00	10183.00
	[B] For 2 HP 3 phase open well horizontal mono block pump set suitable for 200 LPM @ 25 mtr head suitable for 50 mm dia delivery pipe				
	Cat.I	Ea.	9631.00	327.00	9958.00
	Cat.II	Ea.	10301.00	327.00	10628.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	[C] For 3 HP 3 phase open well horizontal mono block pump set suitable for 85 LPM to 270 LPM @ 11 mtr to 33 mtr head suitable for 50/65 mm dia delivery pipe				
	Cat.I	Ea.	13882.00	327.00	14209.00
	Cat.II	Ea.	15225.00	327.00	15552.00
	[D] For 5 HP 3 phase open well horizontal mono block pump set suitable for 1350 LPM to 310 LPM @ 10 to 42 Mtr head suitable for 50/65 mm dia delivery pipe				
	Cat.I	Ea.	16335.00	327.00	16662.00
	Cat.II	Ea.	18234.00	327.00	18561.00
	[E] For 7.5 HP 3 phase open well horizontal mono block pump set suitable for 1550 LPM to 370 LPM @ 13.5 Mtr to 42 Mtr head suitable for 65/75 mm dia delivery pipe				
	Cat.I	Ea.	22047.00	327.00	22374.00
	Cat.II	Ea.	25403.00	327.00	25730.00
	[F] For 10 HP 3 phase open well horizontal mono block pump set suitable for 1725 LPM to 940 LPM @ 15 to 36 MTR head suitable for 65/80 mm dia delivery pipe				
	Cat.I	Ea.	25496.00	327.00	25823.00
	Cat.II	Ea.	27856.00	327.00	28183.00
	[G] For 12.5 HP 3 phase open well horizontal mono block pump set suitable for 1530 LPM to 950 LPM @ 24 to 40 MTR head suitable for 65/80 mm dia delivery pipe				
	Cat.I	Ea.	33115.00	327.00	33442.00
	Cat.II	Ea.	34903.00	327.00	35230.00
	[H] For 15 HP 3 phase open well horizontal mono block pump set suitable for 1600 LPM to 1025 LPM @ 33 to 42 MTR head suitable for 65 /80 mm dia delivery pipe				
	Cat.I	Ea.	34903.00	327.00	35230.00
	Cat.II	Ea.	48077.00	327.00	48404.00
	[I] For 20 HP 3 phase open well horizontal mono block pump set suitable for 1750 LPM to 1150 LPM @ 33 to 51 MTR head suitable for 65 /80 mm dia delivery pipe				
	Cat.I	Ea.	47992.00	327.00	48319.00
	Cat.II	Ea.	53005.00	327.00	53332.00
	[J] For 25 HP 3 phase open well horizontal mono block pump set suitable for 1850 LPM to 1075 LPM @ 36 to 60 MTR head suitable for 65 /80 mm dia delivery pipe				
	Cat.I	Ea.	51573.00	327.00	51900.00
	Cat.II	Ea.	58284.00	327.00	58611.00
	[K] For 30 HP 3 phase open well horizontal mono block pump set suitable for 2450 LPM to 1575 LPM @ 40 to 51 MTR head suitable for 80 / 100 mm dia delivery pipe				
	Cat.I	Ea.	53695.00	327.00	54022.00
	Cat.II	Ea.	60742.00	327.00	61069.00
SECTION 9-5					
STARTER PANELS					
Note: In all the starter item without enclosure / panel 10% rate decrease.					
9-5-1.	Supplying & erecting approved make Automatic liquid level controller 6A. with sensor testing as per instruction of Engineer in charge on site complete with wiring connection with existing wires , with copper conductor from pump to upper and lower tank.	Ea.	2238.00	94.00	2332.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-5-2	Supplying & erecting approved make motor control cubical panel (Direct - on - line) made from 16 G. CRCA sheet duly epoxy powder painted inside and outside with hinged doors and locking, arrangement consisting of suitable size of ON- OFF isolator (AC - 3/23duty) main fuses, single phasing preventer, indicating lamps for R- Y - B phases, overload relay, Automatic water level controller, Ammeter, Voltmeter each with two way selector switch incoming, wires duly socket crimped, main contactor & overload relay, start - stop push buttons, to be erected on angle iron frame grouted on wall as directed. The isolator, overload relay & contactors will be of L & T, Siemens or BCH make only.				
	(A) DOL up to 5.0 H.P.	Ea.	7412.00	234.00	7646.00
	(B) DOL for 7.5 H.P.	Ea.	8390.00	234.00	8624.00
9-5-3	Supplying & erecting approved make motor control cubical panel [Star delta] made from 16G CRCA sheet duly epoxy powder painted inside and outside with hinged doors and locking with suitable size of ON - OFF isolator (AC 3 / 23 duty) main fuses. Digital volt and current meter (in a single unit) with micro controller based control unit and current sensing single phasing preventer electronic overload protection, over voltage (Programmable) protection and under voltage (Programmable) protection, prod less dry run protection programming facility for setting of all parameter like overload current, high voltage limit, low voltage limit, dry run limit with digital indication on seven segment LED display for any fault like over load, high voltage, low voltage, dry running single crimped, electronic star delta timer, feather touch start / stop push buttons to be erected on angle iron frame. Grouted on wall the contactors will be of L& T, Siemens, BCH make only)				
	(A) DOL up to 5.0 H.P.	Ea	6945.00	234.00	7179.00
	(B) DOL for 7.5 H.P.	Ea	8577.00	234.00	8811.00
9-5-4	Supplying & erecting approved make 3 phase motor control cubical panel (Star - Delta) made from 16 G. CRCA sheet duly painted with epoxy powder painted inside and outside with hinged doors and locking arrangement, consisting of suitable size of ON- OFF isolator (AC - 3/23 duty) main fuses, single phasing preventer cum water level. Guard (Complete unit), Toggle switch to by pass Single phase preventer cum WLG, indicating lamps for R- Y- B phases, over load relay, Automatic water level controller, Ammeter & Voltmeter each with two way selector switch incoming wires duly socket Crimped, Panel to be erected on angle iron frame grouted on wall as directed. Star Delta & main contactor, overload relay, thermal / Electronic Star delta cutoff timer, start - stop push buttons. The isolator overload relay & contactors of L& T, Siemens or Cuttler Hamer make only. Panel to be erected on angle iron frame ground on wall.				
	(A) S/D up to 7.5 H.P.	Ea.	12585.00	280.00	12865.00
	(B) S/D up to 10 H.P.	Ea.	13191.00	280.00	13471.00
	(C) S/D up to 12.5 H.P.	Ea.	13937.00	373.00	14310.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(D) S/D up to 15 HP	Ea.	15289.00	373.00	15662.00
	(E) S/D up to 22.5 H.P.	Ea.	17759.00	420.00	18179.00
	(F) S/D up to 30 H.P.	Ea.	23073.00	513.00	23586.00
9-5-5	Supplying & erecting approved make motor control cubical panel [Star delta] made from 16G CRCA sheet duly epoxy powder painted inside and outside with hinged doors and locking with suitable size of ON - OFF isolator (AC 3 / 23 duty) main fuses. Digital volt and current meter (in a single unit) with micro controller based control unit and current sensing single phasing preventer electronic overload protection, over voltage (Programmable) protection and under voltage (Programmable) protection, prod less dry run protection programming facility for setting of all parameter like overload current, high voltage limit, low voltage limit, dry run limit with digital indication on seven segment LED display for any fault like over load, high voltage, low voltage, dry running single crimped, electronic star delta timer, feather touch start / stop push buttons to be erected on angle iron frame. Grouted on wall the contactors will be of L & T, Siemens , BCH make only)				
	(A) S/D up to 7.5 H.P.	Ea.	12772.00	280.00	13052.00
	(B) S/D up to 10 H.P.	Ea.	13378.00	280.00	13658.00
	(C) S/D up to 12.5 H.P.	Ea.	14170.00	373.00	14543.00
	(D) S/D up to 15 HP	Ea.	15522.00	373.00	15895.00
	(E) S/D up to 22.5 H.P.	Ea.	18039.00	420.00	18459.00
	(F) S/D up to 30 H.P.	Ea.	23296.00	513.00	23809.00
9-5-6	Supplying and erecting approved make 3 phase motor control panel (ATS) made from 16 G. CRCA sheet duly painted with epoxy power paint inside and outside with hinged doors and locking arrangement, consisting, of suitable switch of AC 23 duty with HRC fuses (Cat.III), starting and running contactors, overload relay, Automatic water level controller, Electronic timer with master timer CT operated Ammeter with selector switch, Voltmeter with selector switch, phase indicating lamps, single phasing preventer , water level guard, over load, start, run and stop push buttons, air cooled auto transformer with 60%, 70%, 80% tapping, Panel to be erected on angle iron frame grouted on wall as directed., contactors relays, timer etc. shall be of L & T Siemens / Cutler Hammer make.				
	(A) Suitable for 25 H.P.	Ea.	31229.00	420.00	31649.00
	(B) Suitable for 30 H.P.	Ea.	37009.00	513.00	37522.00
	(C) Suitable for 35 H.P.	Ea.	40691.00	513.00	41204.00
	(D) Suitable for 40 H.P.	Ea.	44420.00	606.00	45026.00
	(E) Suitable for 50 H.P.	Ea.	54534.00	700.00	55234.00
	(F) Suitable for 60 H.P.	Ea.	60500.00	793.00	61293.00
SECTION 9-6					
SUBMERSIBLE PUMPS					
9-6-1.	S.I.T.C. of single phase submersible pump set suitable for 100 mm size or more dia bore well having motor capacity and discharge as under with necessary panel box. Lifting and Lowering taken extra.				
	(a) Motor rating 1 HP (12 stage) pump having capacity of 50 LPM at 43 to 45 mtr head suitable for 32 mm dia. delivery pipe				
	Cat.I	Ea.	13928.00	0.00	13928.00
	Cat.II	Ea.	15441.00	0.00	15441.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(b) Motor rating 1.5 HP (16 stage) pump having capacity of 50 LPM at 60 mtr head suitable for 32 mm dia. delivery pipe				
	Cat.I	Ea.	15886.00	0.00	15886.00
	Cat.II	Ea.	17433.00	0.00	17433.00
	(c) Motor rating 2 HP (17 stage) pump having capacity of 106 LPM at 40 mtr head suitable for 32 mm dia. delivery pipe				
	Cat.I	Ea.	16445.00	0.00	16445.00
	Cat.II	Ea.	18204.00	0.00	18204.00
	Note:- Add or less Rs. 450/- for Additional / Less Stage				
9-6-2.	S.I.T.C. submersible pump set suitable for bore of 100 mm. dia. or more having three phase motor capacity not more than 3 H.P. of different range with following capacity . Lifting and Lowering taken extra.				
	(A) (20 stage) 170 to 185 LPM discharge at 57 to 48 mtrs. Respectively head suitable for 50 mm dia. delivery pipe				
	Cat.I	Ea.	17759.00	0.00	17759.00
	Cat.II	Ea.	19234.00	0.00	19234.00
	Cat.III	Ea.	20695.00	0.00	20695.00
	(B) (15 stage) 130 LPM discharge at 50 mtrs. Respectively head suitable for 50 mm dia. delivery pipe				
	Cat.I	Ea.	17119.00	0.00	17119.00
	Cat.II	Ea.	18573.00	0.00	18573.00
	Cat.III	Ea.	20026.00	0.00	20026.00
	(C) (12 stage) 130 LPM discharge at 54 mtrs. Respectively head suitable for 50 mm dia. delivery pipe				
	Cat.I	Ea.	16221.00	0.00	16221.00
	Cat.II	Ea.	17678.00	0.00	17678.00
	Cat.III	Ea.	19017.00	0.00	19017.00
	Note:- Add or less Rs. 500/- for Additional / Less Stage				
9-6-3.	S.I.T.C. submersible pump set suitable for bore of 100 mm. dia. or more having three phase motor capacity not more than 5 H.P. with following capacity . Lifting and Lowering taken extra.				
	(A) (25 stage) 120 to 125 LPM discharge at 155 to 120 mtrs. head respectively suitable for 50 mm dia. delivery pipe				
	Cat.I	Ea.	22153.00	0.00	22153.00
	Cat.II	Ea.	23492.00	0.00	23492.00
	Cat.III	Ea.	26628.00	0.00	26628.00
	(B) (16 stage) 140 to 180 LPM discharge at 96 to 69 mtrs. head respectively suitable for 50mm dia. delivery pipe				
	Cat.I	Ea.	19242.00	0.00	19242.00
	Cat.II	Ea.	20695.00	0.00	20695.00
	Cat.III	Ea.	22153.00	0.00	22153.00
	Note:- Add or less Rs. 550/- for Additional / Less Stage				
9-6-4.	S.I.T.C. submersible pump set suitable for bore of 150 mm. dia. or more having three phase motor capacity not more than 5 H.P. with following capacity . Lifting and Lowering taken extra.				
	(A) (8 stage) 240 to 200 LPM discharge at 70 to 78 mtrs. head respectively suitable for 50mm dia. delivery pipe				
	Cat.I	Ea.	26289.00	0.00	26289.00
	Cat.II	Ea.	30428.00	0.00	30428.00
	Cat.III	Ea.	33000.00	0.00	33000.00
	(B) (5 stage) 410 to 350 LPM discharge at 40 to 36 mtrs. head respectively suitable for 50mm dia. delivery pipe				
	Cat.I	Ea.	24386.00	0.00	24386.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat.II	Ea.	28526.00	0.00	28526.00
	Cat.III	Ea.	32106.00	0.00	32106.00
	Note:- Add or less Rs. 600/- for Additional / Less Stage				
9-6-5.	S.I.T.C. submersible pump set suitable for bore of 150 mm. dia. or more having three phase motor capacity not more than 7.5 H.P. with following capacity . Lifting and Lowering taken extra.				
	(A) (12 stage) 280 to 240 LPM discharge at 90 to 104 mtrs. head respectively suitable for 50mm dia. delivery pipe				
	Cat.I	Ea.	28526.00	0.00	28526.00
	Cat.II	Ea.	31772.00	0.00	31772.00
	Cat.III	Ea.	35238.00	0.00	35238.00
	(B) (8 stage) 390 to 350 LPM discharge at 62 to 70 mtrs. head respectively suitable for 50mm dia. delivery pipe				
	Cat.I	Ea.	26289.00	0.00	26289.00
	Cat.II	Ea.	2979.00	0.00	2979.00
	Cat.III	Ea.	33225.00	0.00	33225.00
	Note:- Add or less Rs. 650/- for Additional / Less Stage				
9-6-6	S.I.T.C. submersible pump set suitable for bore of 150 mm dia or more having 3 phase motor capacity not less than 10 HP with following capacity. Lifting and Lowering taken extra.				
	[A] 10 stage 575 to 480 LPM discharge at 60 to 70 mtr head for 65 mm dia delivery pipe				
	Cat.I	Ea	34064.00	0.00	34064.00
	Cat.II	Ea	35797.00	0.00	35797.00
	Cat.III	Ea	39267.00	0.00	39267.00
	[B] 20 stage 210 to 160 LPM discharge at 148 to 173 mtr head for 50 mm dia delivery pipe				
	Cat.I	Ea	39267.00	0.00	39267.00
	Cat.II	Ea	41056.00	0.00	41056.00
	Cat.III	Ea	43962.00	0.00	43962.00
	[C] 25 stage 160 to 100 LPM discharge at 185 to 220 mtr head for 50 mm dia delivery pipe				
	Cat.I	Ea	44636.00	0.00	44636.00
	Cat.II	Ea	46424.00	0.00	46424.00
	Cat.III	Ea	48662.00	0.00	48662.00
	Note:- Add or less for Item No 9-6-6 Rs. 900/- for Additional / Less Stage				
9-6-7.	S.I.T.C. submersible pump set for bore of 150 mm. dia. Or more having 3 phase motor capacity not more than 12.5 H. With following capacity Lifting and Lowering taken extra.				
	(A)12 Stage, 390 to 350 L.P.M. discharge at the head about 95 to 107 mtrs. suitable for 50 mm dia. Delivery pipe				
	Cat.I	Ea.	35462.00	0.00	35462.00
	Cat.II	Ea.	42509.00	0.00	42509.00
	Cat.III	Ea.	48662.00	0.00	48662.00
	(B)25 Stage, 210 to 140 L.P.M. discharge at the head about 185 to 229 mtrs. suitable for 50 mm dia. Delivery pipe				
	Cat.I	Ea.	43628.00	0.00	43628.00
	Cat.II	Ea.	45306.00	0.00	45306.00
	Cat.III	Ea.	49335.00	0.00	49335.00
	Note:- Add or less Rs. 950/- for Additional / Less Stage				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-6-8.	S.I.T.C. submersible pump set for bore of 150 mm. dia. Or, more having 3 phase motor capacity not more than 15 H.P. and discharge capacity having, Lifting and Lowering taken extra.				
	(A) (15 Stage) 480 to 330 L.P.M at the head 105 to 135 mtrs..suitable for 65 mm dia. delivery pipe				
	Cat.I	Ea.	42848.00	0.00	42848.00
	Cat.II	Ea.	49221.00	0.00	49221.00
	Cat.III	Ea.	55373.00	0.00	55373.00
	(B) (12 Stage) 360 to 410 L.P.M. at the head 84 to 108 mtrs suitable for 65 mm dia. delivery pipe				
	Cat.I	Ea.	41390.00	0.00	41390.00
	Cat.II	Ea.	47543.00	0.00	47543.00
	Cat.III	Ea.	53695.00	0.00	53695.00
	(C) (10 stage) 600 to 500 L.P.M. at the head 70 to 85 mtrs suitable for 65/50 mm dia. delivery pipe				
	Cat.I	Ea.	39153.00	0.00	39153.00
	Cat.II	Ea.	44746.00	0.00	44746.00
	Cat.III	Ea.	51683.00	0.00	51683.00
	(D) (8 stage) 695 to 492 L.P.M. at the head 48 to 73 mtrs suitable for 65/50 mm dia. delivery pipe				
	Cat.I	Ea.	36356.00	0.00	36356.00
	Cat.II	Ea.	41390.00	0.00	41390.00
	Cat.III	Ea.	49445.00	0.00	49445.00
	Note:- Add or less Rs. 1100/- for Additional / Less Stage				
9-6-9.	S.I.T.C. submersible pump set for bore of 150 mm. dia. Or more having 3 phase motor capacity about 20 H.P and discharge capacity having . Lifting and Lowering taken extra.				
	(A) (20 Stage) 370 to 350 LPM discharge at head in between 168 to 177 mtrs. suitable for 50 mm dia. delivery pipe				
	Cat.I	Ea.	48831.00	0.00	48831.00
	Cat.II	Ea.	56941.00	0.00	56941.00
	Cat.III	Ea.	65000.00	0.00	65000.00
	(B) (14 Stage) 650 to 550 LPM discharge at head 84 to 112 mtrs suitable for 65 mm dia. delivery pipe				
	Cat.I	Ea.	44356.00	0.00	44356.00
	Cat.II	Ea.	52467.00	0.00	52467.00
	Cat.III	Ea.	60407.00	0.00	60407.00
	(C) (8 Stage) 1000 to 900 LPM discharge at head 59 to 64 mtrs suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	39937.00	0.00	39937.00
	Cat.II	Ea.	48662.00	0.00	48662.00
	Cat.III	Ea.	57611.00	0.00	57611.00
	Note:- Add or less Rs. 1100/- for Additional / Less Stage				
9-6-10.	S.I.T.C. submersible pump set for bore of 200 mm. dia. or more having 3 phase motor capacity about 25 H.P. and discharge capacity having . Lifting and Lowering taken extra.				
	(A) (12 Stage) 472 to 330 L.P.M. discharge at the head 120 to 192 mtrs. suitable for 65 mm dia. delivery pipe				
	Cat.I	Ea.	48886.00	0.00	48886.00
	Cat.II	Ea.	61750.00	0.00	61750.00
	Cat.III	Ea.	69356.00	0.00	69356.00
	(B) (8 Stage) 1000 to 750 L.P.M. discharge at the head 87 to 115 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	46314.00	0.00	46314.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Cat.II	Ea.	59178.00	0.00	59178.00
	Cat.III	Ea.	68352.00	0.00	68352.00
	(C) (6 Stage) 1000 to 800 L.P.M. discharge at the head 84 to 102 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	44301.00	0.00	44301.00
	Cat.II	Ea.	56606.00	0.00	56606.00
	Cat.III	Ea.	67344.00	0.00	67344.00
	(D) (5 Stage) 1400 to 1200 L.P.M. discharge at the head 64 to 79 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	43068.00	0.00	43068.00
	Cat.II	Ea.	54704.00	0.00	54704.00
	Cat.III	Ea.	65441.00	0.00	65441.00
	Note:- Add or less Rs. 2200/- for Additional / Less Stage				
9-6-11.	S.I.T.C. submersible pump set for bore of 200 mm. dia. or more having 3 phase motor capacity about 30 H.P. and discharge capacity having. Lifting and Lowering taken extra.				
	(A) (12 Stage) 650 to 440 L.P.M. discharge at the head 120 to 190 mtrs. suitable for 80 mm dia. delivery pipe.				
	Cat.I	Ea.	72153.00	0.00	72153.00
	Cat.II	Ea.	77746.00	0.00	77746.00
	Cat.III	Ea.	83619.00	0.00	83619.00
	(B) (10 Stage) 620 to 510 L.P.M. discharge at the head 130 to 160 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	69916.00	0.00	69916.00
	Cat.II	Ea.	75289.00	0.00	75289.00
	Cat.III	Ea.	80882.00	0.00	80882.00
	(C) (8 Stage) 900 to 650 L.P.M. discharge at the head 104 to 152 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	67119.00	0.00	67119.00
	Cat.II	Ea.	72153.00	0.00	72153.00
	Cat.III	Ea.	78085.00	0.00	78085.00
	(D) (5 Stage) 1400 to 1150 L.P.M. discharge. at the head 70 to 85 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	63763.00	0.00	63763.00
	Cat.II	Ea.	68797.00	0.00	68797.00
	Cat.III	Ea.	75848.00	0.00	75848.00
9-6-12.	S.I.T.C. submersible pump set for bore of 200 mm. dia. or more having 3 phase motor capacity about 34/35 H.P discharge capacity having . Lifting and Lowering taken extra.				
	(A) (12 Stage) 750 to 500 L.P.M. discharge at the head 172 to 204 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	83005.00	0.00	83005.00
	Cat.II	Ea.	88488.00	0.00	88488.00
	Cat.III	Ea.	94191.00	0.00	94191.00
	(B) (6 Stage) 1600 to 1150 L.P.M. discharge at the head 72 to 102 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	76068.00	0.00	76068.00
	Cat.II	Ea.	82000.00	0.00	82000.00
	Cat.III	Ea.	87373.00	0.00	87373.00
	(C) (5 Stage) 1500 to 1300 L.P.M. discharge at the head 75 to 85 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	75064.00	0.00	75064.00
	Cat.II	Ea.	80767.00	0.00	80767.00
	Cat.III	Ea.	86255.00	0.00	86255.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-6-13.	S.I.T.C. submersible pump set for bore of 200 mm. dia. Or more having 3 phase motor capacity about 40-45 H.P discharge capacity having . Lifting and Lowering taken extra.				
	(A) (11 Stage) 930 to 780 L.P.M. discharge at the head 154 to 182 mtrs. suitable for 80 mm dia. delivery pipe				
	Cat.I	Ea.	92289.00	0.00	92289.00
	Cat.II	Ea.	97882.00	0.00	97882.00
	Cat.III	Ea.	103140.00	0.00	103140.00
	(B) (9 Stage) 1270 to 1180 L.P.M. discharge at the head 113 to 126 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	88933.00	0.00	88933.00
	Cat.II	Ea.	94526.00	0.00	94526.00
	Cat.III	Ea.	100119.00	0.00	100119.00
	(C) (6 Stage) 1600 to 1300 L.P.M. discharge at the head 81 to 102 mtrs. suitable for 100 mm dia. delivery pipe				
	Cat.I	Ea.	85577.00	0.00	85577.00
	Cat.II	Ea.	91170.00	0.00	91170.00
	Cat.III	Ea.	96763.00	0.00	96763.00
9-6-14.	S.I.T.C. submersible pump set for bore of 200 mm. dia. or more having 3 phase motor capacity about 50-55 H.P discharge capacity having . Lifting and Lowering taken extra.				
	(A) (13 Stage) 100 to 400 L.P.M. discharge at the head 182 to 265 mtrs. suitable for 80 mm dia. Delivery pipe				
	Cat.I	Ea.	102916.00	0.00	102916.00
	Cat.II	Ea.	110187.00	0.00	110187.00
	Cat.III	Ea.	116339.00	0.00	116339.00
	(B) (10 Stage) 1400 to 1200 L.P.M. discharge at the head 117 to 128 mtrs. suitable for 100 mm dia. Delivery pipe having				
	Cat.I	Ea.	97882.00	0.00	97882.00
	Cat.II	Ea.	105712.00	0.00	105712.00
	Cat.III	Ea.	111306.00	0.00	111306.00
	(C) (8 Stage) 1400 to 1100 L.P.M. discharge at the head 113 to 138 mtrs. suitable for 100 mm dia. Delivery pipe having				
	Cat.I	Ea.	94526.00	0.00	94526.00
	Cat.II	Ea.	102356.00	0.00	102356.00
	Cat.III	Ea.	107950.00	0.00	107950.00
9-6-15	S.I.T.C. submersible pump set for bore of 225 mm. dia. or more having 3 phase motor capacity about 50-55 H.P discharge capacity having. Lifting and Lowering taken extra.				
	(A) (6 Stage) 1800 to 1200 L.P.M. discharge at the head 86 to 114 mtrs. suitable for 100 mm dia. Delivery pipe having				
	Cat.I	Ea.	90051.00	0.00	90051.00
	Cat.II	Ea.	97882.00	0.00	97882.00
	Cat.III	Ea.	103475.00	0.00	103475.00
9-6-16	S.I.T.C. submersible pump set for bore of 225 mm. dia. or more having 3 phase motor capacity about 60 H.P discharge capacity having . Lifting and Lowering taken extra.				
	(A) (10 Stage) 1400 to 1150 L.P.M. discharge at the head 141 to 164 mtrs. suitable for 100 mm dia. Delivery pipe [Cat.III]	Ea.	139890.00	0.00	139890.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(B) (7 Stage) 2200 to 1600 L.P.M. discharge at the head 81 to 124 mtrs. suitable for 125 mm dia. Delivery pipe [Cat.III]	Ea.	131331.00	0.00	131331.00
9-6-17.	Lifting of submersible motor pump set complete with required No .& size of casing pipes by means of proper chain pulley block and pipe. wrenches. Job includes stacking of pipes chronologically after due checking of threads.				
	(A) Up to 60 mtrs.	Per Job	0.00	1695.00	1695.00
	(B)Above 60 mtrs. and Up to 120 mtrs.	Per Job	0.00	2543.00	2543.00
	(C)Above 120 mtr.	Per Job	0.00	2967.00	2967.00
	(D)For Open well Horizontal submersible pump set for sump well				
	(i) 1 HP to 5 HP	Per Job	0.00	848.00	848.00
	(ii) 7.5HP to 15 HP	Per Job	0.00	1272.00	1272.00
	(iii)Above 15 HP	Per Job	0.00	1695.00	1695.00
9-6-18.	Lowering of submersible motor pump set at the depth of following ,complete with required. Nos. and size of casing pipes erected by means of proper chain pulley block & pipe wrenches after checking of threads of each pipe with coupling to take the load of the pump set and pipe assembly filled up with water				
	(A) Up to 60 mtrs.	Per Job	0.00	1695.00	1695.00
	(B)Above 60 mtrs. and Up to 120 mtrs.	Per Job	0.00	2543.00	2543.00
	(C)Above 120 mtr.	Per Job	0.00	2967.00	2967.00
	(D)For Open well Horizontal submersible pump set for sump well				
	(i) 1 HP to 5 HP	Per Job	0.00	848.00	848.00
	(ii) 7.5HP to 15 HP	Per Job	0.00	1272.00	1272.00
	(iii)Above 15 HP	Per Job	0.00	1695.00	1695.00
SECTION 9-7 PIPES AND PIPE FITTINGS					
9-7-1.	Providing and erecting ISI marked PVC insulated PVC Sheathed Flat flexible Submersible copper cable approved make of following Size.				
	(A) 3 Core x 1.5 Sq. mm.	Mtr.	61.00	4.00	65.00
	(B) 3 Core x 2.5 Sq. mm.	Mtr.	99.00	4.00	103.00
	(C) 3 Core x 4 Sq. mm	Mtr.	141.00	4.00	145.00
	(D) 3 Core x 6 Sq. mm.	Mtr.	167.00	4.00	171.00
	(E) 3 Core x 10 Sq. mm.	Mtr.	289.00	4.00	293.00
	(F) 3 Core x 16 Sq. mm.	Mtr.	480.00	4.00	484.00
	(G)3 Core x 25 Sq. mm	Mtr.	637.00	4.00	641.00
	(H) 2 Core x 1.5 Sq. mm	Mtr.	48.00	4.00	52.00
	(I) 2 Core x 2.5 Sq. mm	Mtr.	61.00	4.00	65.00
	(J) 3 Core x 35 Sq. mm	Mtr.	980.00	4.00	984.00
9-7-2.	Providing Water proof straight Joint in PVC insulated flat flexible copper cable by using insulating material, water proofing material, & making the joint complete.				
	(A) Up to 10Sq. mm	Ea.	149.00	39.00	188.00
	(B) 16 to 35 Sq. mm	Ea.	212.00	64.00	276.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-7-3.	Supplying & erecting ISI Marked (Embossed) following size of "B" Class G.I. Pipe & erecting as directed by Engineer-in-charge with necessary plumbing as desired.				
	(A) 25 mm dia	Mtr.	107.00	22.00	129.00
	(B) 32 mm dia	Mtr.	153.00	22.00	175.00
	(C) 40 mm dia	Mtr.	184.00	26.00	210.00
	(D) 50 mm dia	Mtr.	234.00	26.00	260.00
	(E) 65 mm dia	Mtr.	316.00	26.00	342.00
	(F) 80 mm dia.	Mtr.	407.00	34.00	441.00
	(G) 100 mm dia.	Mtr.	641.00	43.00	684.00
9-7-4.	Supplying ISI Marked (Embossed) following size of Heavy duty "C" Class G.I. Pipe & erecting as directed by Engineer-in-charge with necessary plumbing as desired.				
	(A) 25 mm dia	Mtr.	153.00	22.00	175.00
	(B) 32 mm dia	Mtr.	194.00	22.00	216.00
	(C) 40 mm dia	Mtr.	229.00	22.00	251.00
	(D) 50 mm dia	Mtr.	326.00	26.00	352.00
	(E) 65 mm dia	Mtr.	397.00	26.00	423.00
	(F) 80 mm dia.	Mtr.	499.00	34.00	533.00
	(G) 100 mm dia.	Mtr.	763.00	34.00	797.00
	(H) 125 mm dia.	Mtr.	926.00	43.00	969.00
9-7-5.	Supplying and erecting with leak proof materials, M.S. Heavy duty ISI marked coupling having threads of 8 TPI/11 TPI suitable for 'C' class pipe to take load of pump and pipe assembly of following size and TPI :-				
	(A) 40mm(1.5") dia. pipe 8 TPI	Ea.	62.00	9.00	71.00
	(B) 40mm(1.5") dia. pipe 11 TPI	Ea.	41.00	9.00	50.00
	(C) 50 mm(2") dia. pipe 8 TPI	Ea.	82.00	9.00	91.00
	(D) 50mm (2") dia. pipe 11 TPI	Ea.	51.00	9.00	60.00
	(E) 65mm(2.1/2") dia. pipe 8 TPI	Ea.	112.00	13.00	125.00
	(F) 65mm(2.1/2") dia. pipe 11 TPI	Ea.	67.00	13.00	80.00
	(G) 80mm (3")dia pipe 8 TPI	Ea.	133.00	17.00	150.00
	(H) 80mm (3")dia. pipe 11 TPI	Ea.	72.00	17.00	89.00
	(I) 100mm(4") dia. pipe 8 TPI	Ea.	148.00	26.00	174.00
	(J) 100mm(4") dia. pipe 11 TPI	Ea.	97.00	26.00	123.00
	(K) 125mm (5") dia. pipe 8 TPI	Ea.	255.00	34.00	289.00
	(L) 125mm (5") dia. pipe 11 TPI	Ea.	153.00	34.00	187.00
9-7-6.	Add cost of leak proof complete welding surrounding pipe and coupling for use as column pipe for following size				
	(A) 50mm, 65 mm	Ea.	0.00	60.00	60.00
	(B) 80 mm, 100 mm, 125 mm	Ea.	0.00	89.00	89.00
9-7-7.	Cutting the heavy duty pipe and threading one end of pipe with 8 TPI / 11 TPI as per requirement and including to and fro charges.				
	(A) 40mm (1.5") dia pipe	Ea.	0.00	54.00	54.00
	(B) 50mm (2") dia pipe	Ea.	0.00	69.00	69.00
	(C) 65mm(2.1/2") dia. Pipe	Ea.	0.00	90.00	90.00
	(D) 80mm (3") dia pipe	Ea.	0.00	139.00	139.00
	(E) 100mm (4") dia pipe	Ea.	0.00	170.00	170.00
	(F) 125mm (5") dia, pipe	Ea.	0.00	196.00	196.00
9-7-8.	Heavy duty clamp made from 4" x 1.5" iron strip suitable for column pipe 1.5" to 2" length.				
	(A) 40 mm (1.5") dia pipe	Ea.	143.00	0.00	143.00
	(B) 50mm(2") dia pipe	Ea.	178.00	0.00	178.00
	(C) 65mm(2.1/2") dia. Pipe	Ea.	204.00	0.00	204.00
	(D) 80mm (3") dia pipe	Ea.	219.00	0.00	219.00
	(E) 100mm (4") dia pipe	Ea.	280.00	0.00	280.00
9-7-9.	Supplying & erecting G.I. bend for pipe connections suitable for				
	(A) 25 mm (1")	Ea.	51.00	13.00	64.00
	(B) 32 mm (1.25")	Ea.	56.00	13.00	69.00
	(C) 40 mm (1.5")	Ea.	77.00	17.00	94.00
	(D) 50 mm(2")	Ea.	97.00	17.00	114.00
	(E) 65 mm(2.5")	Ea.	173.00	26.00	199.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(F) 80 mm(3)	Ea.	245.00	26.00	271.00
	(G) 100 mm(4")	Ea.	509.00	34.00	543.00
	(H) 125mm (5")	Ea.	590.00	34.00	624.00
9-7-10.	Supplying & erecting ISI Marked G.I. Elbow for pipe connections suitable for				
	(A) 25 mm (1")	Ea.	31.00	13.00	44.00
	(B) 32 mm (1.25")	Ea.	56.00	13.00	69.00
	(C) 40 mm (1.5")	Ea.	72.00	17.00	89.00
	(D) 50 mm(2")	Ea.	128.00	17.00	145.00
	(E) 65 mm(2.5")	Ea.	214.00	26.00	240.00
	(F) 80 mm(3)	Ea.	316.00	26.00	342.00
9-7-11.	Supplying & erecting ISI Marked G.I. Reducer Elbow for pipe connections suitable for				
	(A) 25 mm (1")	Ea.	36.00	13.00	49.00
	(B) 32 mm (1.25")	Ea.	67.00	13.00	80.00
	(C) 40 mm (1.5")	Ea.	82.00	17.00	99.00
	(D) 50 mm(2")	Ea.	123.00	17.00	140.00
	(E) 65 mm(2.5")	Ea.	234.00	26.00	260.00
	(F) 80 mm(3)	Ea.	326.00	26.00	352.00
	(G) 100 mm(4")	Ea.	509.00	34.00	543.00
9-7-12.	Supplying & erecting ISI Marked G.I. Reducer Socket for pipe connections suitable for				
	(A) 25 mm (1")	Ea.	31.00	13.00	44.00
	(B) 32 mm (1.25")	Ea.	51.00	13.00	64.00
	(C) 40 mm (1.5")	Ea.	67.00	17.00	84.00
	(D) 50 mm(2")	Ea.	87.00	17.00	104.00
	(E) 65 mm(2.5")	Ea.	153.00	26.00	179.00
	(F) 80 mm(3)	Ea.	234.00	26.00	260.00
	(G) 100 mm(4")	Ea.	306.00	34.00	340.00
9-7-13.	Supplying & erecting ISI Marked G.I. Union for pipe connections suitable for				
	(A) 25 mm (1")	Ea.	62.00	13.00	75.00
	(B) 32 mm (1.25")	Ea.	77.00	13.00	90.00
	(C) 40 mm (1.5")	Ea.	92.00	17.00	109.00
	(D) 50 mm(2")	Ea.	123.00	17.00	140.00
	(E) 65 mm(2.5")	Ea.	245.00	26.00	271.00
	(F) 80 mm(3)	Ea.	377.00	26.00	403.00
	(G) 100 mm(4")	Ea.	448.00	34.00	482.00
9-7-14.	Supplying & erecting Mild Steel heavy duty Flanges with rubber packing and hardware materials for pipe connections suitable for				
	(A) 50 mm (2")	Ea.	112.00	17.00	129.00
	(B) 65 mm (2.5")	Ea.	133.00	17.00	150.00
	(C) 80 mm (3")	Ea.	143.00	26.00	169.00
	(D) 100 mm (4")	Ea.	184.00	26.00	210.00
	(E) 125mm (5")	Ea.	285.00	34.00	319.00
9-7-15.	Supplying & erecting UPVC heavy duty Flanges with rubber packing and hardware materials for pipe connections suitable for				
	(A) 50 mm (2")	Ea.	140.00	17.00	157.00
	(B) 65 mm (2.5")	Ea.	166.00	17.00	183.00
	(C) 80 mm (3")	Ea.	178.00	26.00	204.00
	(D) 100 mm (4")	Ea.	229.00	26.00	255.00
	(E) 125mm (5")	Ea.	356.00	34.00	390.00
9-7-16.	Supplying and erecting ISI marked sluice valve at position with necessary material for following size of pipe diameter.				
	(A) 25 mm (1")	Ea.	316.00	26.00	342.00
	(B) 32 mm (1.25")	Ea.	417.00	26.00	443.00
	(C) 40 mm (1.5")	Ea.	560.00	34.00	594.00
	(D) 50 mm(2")	Ea.	753.00	43.00	796.00
	(E) 65 mm(2.5")	Ea.	1475.00	68.00	1543.00
	(F) 80 mm(3)	Ea.	1882.00	85.00	1967.00
	(G) 100 mm(4")	Ea.	3712.00	128.00	3840.00
9-7-17.	Supplying, & erecting C.I. swing, check type non-return (Reflux) Valve -ISI marked suitable for following size				
	(A) 50 mm dia.	Ea.	967.00	43.00	1010.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(B) 65 mm dia.	Ea.	1424.00	51.00	1475.00
	(C) 80 mm dia.	Ea.	1638.00	60.00	1698.00
	(D) 100 mm dia.	Ea.	2746.00	94.00	2840.00
	(E) 125 mm dia.	Ea.	3153.00	94.00	3247.00
9-7-18	Supplying of following size of STANDARD UPVC column pipe with coupler and wire lock				
	[A] 25 mm dia	RMT.	143.00	0.00	143.00
	[B] 32 mm dia	RMT.	178.00	0.00	178.00
	[C] 40 mm dia	RMT.	219.00	0.00	219.00
	[D] 50 mm dia	RMT.	295.00	0.00	295.00
	[E] 65 mm dia	RMT.	387.00	0.00	387.00
	[F] 80 mm dia	RMT.	519.00	0.00	519.00
	[G] 100 mm dia	RMT.	763.00	0.00	763.00
9-7-19	Supplying of following size of HEAVY UPVC column pipe with coupler and wire lock				
	[A] 40 mm dia	RMT.	255.00	0.00	255.00
	[B] 50 mm dia	RMT.	356.00	0.00	356.00
	[C] 65 mm dia	RMT.	489.00	0.00	489.00
	[D] 80 mm dia	RMT.	692.00	0.00	692.00
	[E] 100 mm dia	RMT.	1119.00	0.00	1119.00
9-7-20	Supply of following size of TOP & BOTTOM accessories i.e. Adaptor set (CI) long, pump guard set, starter pipe Rubber ring for submersible pump & UPVC column pipe as directed by Engineer - in - charge with necessary plumbing as desired.				
	[A] 25 mm dia	Per Set	316.00	0.00	316.00
	[B] 32 mm dia	Per Set	458.00	0.00	458.00
	[C] 40 mm dia	Per Set	509.00	0.00	509.00
	[D] 50 mm dia	Per Set	1475.00	0.00	1475.00
	[E] 65 mm dia	Per Set	1882.00	0.00	1882.00
	[F] 80 mm dia	Per Set	2655.00	0.00	2655.00
	[G] 100 mm dia	Per Set	3834.00	0.00	3834.00
SECTION 9-8 PRESSURE PUMPS					
9-8-1.	Supplying and erecting Fully Automatic hydro pneumatic booster system with cast iron housing Enclosure class IP44 minimum, with built in PTO motor protection and stainless steel impeller pump, pump model GRUNDFOS CMB 5-46 series or equivalent with 24 Liter hydro pneumatic pressurized tank capacity : 3.1 m3/hr, Rated head :25 mtr motor rating : 1 H.P. includes pressure switches, Non Return Valve, Pressure Gauge, 5 way Brass connector, with necessary Plumbing work of 25mm dia suction and delivery pipe which includes all required size of pipes which includes all required size of pipes, Joints valves, Bypass valve, labor all accessories required for installation of pressure pump (Foundation work and base stand cost included)	Ea.	28899.00	933.00	29832.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-8-2.	Supplying and erecting Fully Automatic hydro pneumatic booster system with cast iron housing Enclosure class IP44 minimum , with built in PTO motor protection and stainless steel impeller pump, pump model GRUNDFOS CMB 5-46 series or equivalent with 24 Liter hydro pneumatic pressurized tank capacity : 5 m3/hr, Rated head :30 mtr, motor rating : 1.2 H.P. includes pressure switches, Non Return Valve, Pressure Gauge, 5 way Brass connector, with necessary Plumbing work which includes all required size of pipes, Joints valves, Bypass valve, labor all accessories required for installation of pressure pump (Foundation work and base stand cost included)	Ea.	44280.00	1399.00	45679.00
9-8-3.	Supplying and erecting Fully Automatic hydro pneumatic booster system with cast iron housing Enclosure class IP44 minimum , with built in PTO motor protection and stainless steel impeller pump, pump model GRUNDFOS CMB 5-46 series or equivalent with 24 Liter hydro pneumatic pressurized tank capacity 8 m3/hr, Rated head :40 mtr, motor rating : 1.5 H.P. includes pressure switches, Non Return Valve, Pressure Gauge, 5 way Brass connector, with necessary Plumbing work of 25mm dia suction and delivery pipe which includes all required size of pipes, Joints valves, Bypass valve, labor all accessories required for installation of pressure pump (Foundation work and base stand cost included)	Ea.	56865.00	1492.00	58357.00
9-8-4.	Supplying and erecting Fully Automatic hydro pneumatic booster system with cast iron housing Enclosure class IP44 minimum, with built in PTO motor protection and stainless steel impeller pump, pump model mfhc-201 dd series or equivalent with 100 Liter hydro pneumatic pressurized tank capacity with pressure setting range 2.8 to 5.6 kg/cm2 draw down capacity 36 liters, motor rating : 2 H.P. includes pressure switches, Non Return Valve, Pressure Gauge, 5 way Brass connector, with necessary Plumbing work of 32mm dia suction ,2mm dia discharge suction and delivery pipe which includes all required size of pipes which includes all required size of pipes, Joints valves, Bypass valve, labor all accessories required for installation of pressure pump (Foundation work and base stand cost included)	Ea.	66984.00	1356.00	68340.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-8-5.	Supplying and erecting Fully Automatic hydro pneumatic booster system with cast iron housing Enclosure class IP44 minimum , with built in PTO motor protection and stainless steel impeller pump, pump modelGRUNDFOS CMB 5-46 series or equivalent one pump working and one standby for support with following specifications: i) Power 2.25kw /3 Hp,3 Phase ii) Flow rate -3 cm ² iii) working pressure -4.5 to 5 kg iv) GI inlet & outlet header size 40/80 mm , outlet 40 mm with NRV,,Pressure switch ,pressure transmission, pressure gauge & other required accessories with necessary Plumbing work of suction and delivery pipe which includes all required size of pipes, Joints valves, Bypass valve, labor all accessories required for installation of pressure pump (Foundation work and base stand cost included) along with Panel HMI PLC with VFD with necessary switchgears and cable.	Ea.	145085.00	1356.00	146441.00
9-8-6.	Supplying and erecting Fully Automatic hydro pneumatic booster system with cast iron housing Enclosure class IP44 minimum , with built in PTO motor protection and stainless steel impeller pump, pump modelGRUNDFOS CMB 5-46 series or equivalent one pump working and one standby for support with following specifications: i) Power 2.25kw/3 HP,3 Phase ii) Flow rate -12cm ² iii) working pressure -4.5 to 5 kg iv) GI inlet & outlet header size 40/80 mm , outlet 50 mm with NRV,,Pressure switch ,pressure transmission, pressure gauge & other required accessories with necessary Plumbing work of suction and delivery pipe which includes all required size of pipes, Joints valves, Bypass valve, labor all accessories required for installation of pressure pump (Foundation work and base stand cost included) along with Panel HMI PLC with VFD with necessary switchgears and cable.	Ea.	237289.00	1356.00	238645.00
9-8-7.	SITC of Multiboost type Pressure pump 230V, 1 Phase, 50HZ, 2900 RPM size : 32 mm x 25mm having Discharge Head in 7m to 18m, Discharge flow in 2 m ³ /hr to 7 m ³ /hr (A) 0.5 hp Single Phase	Ea.	23800.00	476.00	24276.00
9-8-8.	SITC of Multiboost type Pressure pump 230V, 1 Phase, 50HZ, 2900 RPM size : 32 mm x 25mm having Discharge Head in 14m to 36m, Discharge flow in 2 m ³ /hr to 7 m ³ /hr (B) 1.0 hp Single Phase	Ea.	28000.00	560.00	28560.00
9-8-9.	SITC of Multiboost type Pressure pump 230V, 1 Phase, 50HZ, 2900 RPM size : 32 mm x 25mm having Discharge Head in 24m to 53m, Discharge flow in 2 m ³ /hr to 7 m ³ /hr (C) 1.5 Hp Single Phase	Ea.	33000.00	660.00	33660.00
9-8-10.	SITC of Multiboost type Pressure pump 230V, 1 Phase, 50HZ, 2900 RPM size : 40 mm x 25mm having Discharge Head in 26m to 50m, Discharge flow in 4 m ³ /hr to 10 m ³ /hr (D) 2.0 Hp Single Phase	Ea.	42200.00	844.00	43044.00
9-8-11.	SITC of Multiboost type Pressure pump 415V, 3 Phase, 50HZ, 2900 RPM size : 40 mm x 32mm having Discharge Head in 27m to 52m, Discharge flow in 4 m ³ /hr to 10 m ³ /hr (D) 3.0 Hp Three Phase	Ea.	55000.00	1100.00	56100.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
9-8-12.	SITC of Multiboost type Pressure pump 415V, 3 Phase, 50HZ, 2900 RPM size : 40 mm x 40mm having Discharge Head in 24m to 43m, Discharge flow in 6 m3/hr to 14 m3/hr (D) 4.0 Hp Three Phase	Ea.	67500.00	1350.00	68850.00

CHEPTER - X Substation
SECTION 10-1 SUBSTATION EQUIPMENT

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-1-1.	Providing, erecting, testing & commissioning approved make oil immersed ONAN cooled, double wound, core type indoor / outdoor copper wound 11KV/ 433V step down transformer of following capacities operating on 3 phase, 50 Hz 4 wire & neutral earthed system continuously rated for a full temperature rise in oil not exceeding 45 Deg.C.at maximum ambient temp. of 50 Deg. C. complete with necessary radiator first filling of new transformer oil & standard fitting as below complying with IS 1180(Part 1):2014 standards with energy efficiency level 1				
	Off load tap changing range steps +2.5% to -5% on H.V for variation should be provided. The H.V. shall be connected Delta & Secondary with star connection. The transformer should have cable-end boxes on H.T. side suitable for up to 3 core 150 sq.mm. XLPE cable & on L.T. side suitable for bus duct or cables as per requirement complete with test certificates from manufacturers				
	1. Oil conservator with filling Hole & Cap - One No.				
	2. Thermometer pocket with 6" dial type thermometer switch alarm & trip contacts- Two nos.				
	3. Silica-gel breather with charge- One No.				
	4. Plain oil level gauge - One No.				
	5. Drain / Sampling / Filter valve- One No.				
	6. Top Filter Valve - One No.				
	7. Explosion vent with Diaphragm - One No.				
	8. Rating & Diagram plate - One No.				
	9. Additional neutral bushing for earthing - One No.				
	10. Bi directional Roller - Four Nos.				
	11. Earthing terminals - Two Nos.				
	12. Lifting lugs - Two Nos.				
	13. Air release plug. - One No.				
	14. Double float buchholz relay with Alarm and trip contacts.				
	15. Control cable as required from Transformer to VCB Panel is to be provided with necessary connection to VCB relays for protection.				
	as per IS 1180 level-1				
	(a)250 KVA Max. allowable losses at 50 % of rated load is 0.98 KW and at full load is 2.93 KW				
	Cat.II Ea.		524365.00	20102.00	544467.00
	Cat.III Ea.		651484.00	20102.00	671586.00
	(b)315 KVA Max. allowable losses at 50 % of rated load is 1.025 KW and at full load is 3.1 KW				
	Cat.II Ea.		587924.00	26803.00	614727.00
	Cat.III Ea.		762713.00	26803.00	789516.00
	(c) 500 KVA Max. allowable losses at 50 % of rated load is 1.510 KW and at full load is 4.3 KW				
	Cat.II Ea.		897776.00	26803.00	924579.00
	Cat.III Ea.		1104344.00	26803.00	1131147.00
	(d) 800 KVA Max. allowable losses at 50 % of rated load is 2.287 KW and at full load is 6.402KW				
	Cat.II Ea.		1104344.00	40204.00	1144548.00
	Cat.III Ea.		1350636.00	40204.00	1390840.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(e) 1000 KVA Max. allowable losses at 50 % of rated load is 2.79 KW and at full load is 7.77 KW				
	Cat.II	Ea.	1422140.00	40204.00	1462344.00
	Cat.III	Ea.	1859111.00	40204.00	1899315.00
	(f) 1250 KVA Max. allowable losses at 50 % of rated load is 3.3 KW and at full load is 9.20 KW				
	Cat.II	Ea.	1817797.00	59325.00	1877122.00
	Cat.III	Ea.	2389831.00	59325.00	2449156.00
	(f) 1600 KVA Max. allowable losses at 50 % of rated load is 4.20 KW and at full load is 11.80 KW				
	Cat.II	Ea.	2427967.00	76275.00	2504242.00
	Cat.III	Ea.	2936441.00	76275.00	3012716.00
10-1-2.	Providing and erecting sandwiched type bus duct having following specification : Sandwich type busbar for use as Feeder Busbar for interconnection between separate electrical equipment/ load centers, and for use as Plug in busbar risers. The busbar shall be suitable for operation in a 690V / 1000 V system with frequency of 50 Hz .System can be either earthed or unearthed. Impulse voltage should be 12 KV. Standards:				
	The busbar shall be designed and manufactured in accordance with the following international standards for busbar trunking. -IS 8623/ 1993 Part I & II : Particular requirements of busbar trunking System -IEC 61439 Part I & VI : Particular requirements of busbar trunking System -IEC- 60529 : Degree of protection TESTING The busbars shall be type tested at a reputable national / International test laboratory (ASTA or CPRI) for short circuit withstand. The test shall be for a minimum duration of one second. • Degree of ingress protection (IP rating) shall also be tested at any reputed independent laboratory. This test shall be for IP 55 for Indoor and IP 65 for Outdoor application. • Short circuit and Degree of protection type test reports will be submitted for vThe bsubars shall be of high conductivity Copper of 99.9% pure ETP grade and high conductivity Aluminium of 99.59% pure 19501 grade. Where as earth conductor is required, it shall be separate external earth conductor, of high conductivity aluminium. Cross section of Earth Conductor shall be as per IEC 60439.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	<p>It should be possible to provide a 200% Neutral where specified.</p> <p>Phase cross over box should have busbars crossing over each other not cables.</p> <p>The busbars shall be individually insulated with 2 layers of insulating film. Layers of POLYSTER material class 'F', 155°C.</p> <p>The housing shall be made of 1.6 mm electrogalvanised sheet steel, with an epoxy powder coated paint finish of RAL 7032 grade. Alternatively Aluminum casing of 2.5mm may also be provided. The housings shall be profiled, to provide higher strength and efficient heat dissipation. The width of the housings shall be same for all ratings of busbars, in order to provide interchangeability of tap off boxes.</p> <p>The joints between sections shall be made so as to provide flexibility during installation and expansion / contraction of busbar during operation. The joints shall be of the single bolt type. The joint construction must have the following features.</p>				
	<p>a) Thermal expansion of Busbars at joint of at least 4 mm per joint.</p> <p>b) The joint insulation must be of one piece moulded design and not have any cut edges which can absorb moisture.</p> <p>c) Joint assembly shall be removable as separate sub-assembly so that it can be inserted or removed without disturbing the adjacent sections.</p> <p>d) The joint system must be designed in a way that the installer cannot insert the busduct length too far and damage the bolt insulator.</p> <p>e) The busbars ends shall not have any holes or slots at the joints – the electrical continuity shall be through pressure plates, achieving a high area of joint cross section and expansion capability.</p>				
	<p>Tap of Units</p> <p>a) Plug in boxes will be draw out type, contacts shall be silver plated and spring loaded.</p> <p>b) The front operating handle will be interlocked with the plug-in boxes cover so that MCCB can be operated only with suitable cover in close position.</p> <p>c) The door shall be provided with the door knobs.</p> <p>d) When the MCCB is in 'ON' position, even with the door knobs unlocked, the operator should not be able to remove the box or open the tap off location cover.</p> <p>e) During insertion, the earth conductor shall make contact first before the phase conductors. This should follow the sequence of first in last out concept.</p> <p>f) When the box is open the live conductors shall be safe guarded by a transparent insulator plate which allows for visible inspection but does not allow touching of the live conductors.</p>				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	g) The tap off unit arrangement must achieve IP 54 without requiring any additional sealing at site. h) The tap off boxes will be suitable for accommodating MCCBs or other accessories, as required. The tap off units should allow the flexibility of accommodating different, reputed MCCB makes, to be mutually agreed depending on the tender requirements.				
	(A) Aluminium Bus				
	(a)400 Amp. capacity	Mtr.	7551.00	763.00	8314.00
	(b)630 Amp. capacity	Mtr.	8390.00	763.00	9153.00
	(c)800 Amp. capacity	Mtr.	10255.00	848.00	11103.00
	(d)1000 Amp. capacity	Mtr.	10721.00	1272.00	11993.00
	(e)1250 Amp. capacity	Mtr.	12585.00	1272.00	13857.00
	(f)1600 Amp. capacity	Mtr.	15382.00	1272.00	16654.00
	(g)2000 Amp. capacity	Mtr.	18645.00	1695.00	20340.00
	(h)2500 Amp capacity	Mtr.	24238.00	1695.00	25933.00
	(i)3200 Amp capacity	Mtr.	27500.00	2119.00	29619.00
	(j)4000 Amp. capacity	Mtr.	31229.00	2119.00	33348.00
	(k)5000 Amp. capacity	Mtr.	39619.00	2119.00	41738.00
	(B) Copper Bus				
	(a)630 Amp. capacity	Mtr.	20564.00	763.00	21327.00
	(b)800 Amp. capacity	Mtr.	22416.00	848.00	23264.00
	(c)1000 Amp. capacity	Mtr.	25827.00	1272.00	27099.00
	(d)1250 Amp.. capacity	Mtr.	29725.00	1272.00	30997.00
	(e)1600 Amp. capacity	Mtr.	37522.00	1272.00	38794.00
10-1-3.	Providing, installing & commissioning & getting Plan Approval as well as NOC from Electrical Inspector for draw out type 11 KV indoor extensible type totally enclosed, single busher floor mounting metal clad 400A. vacuum tube circuit breaker confirming to IS: 2516 (Part- I & 11, Sec.1) 'for use on 11 KV, 3 phase, 50 c/s. unearthed A.C. supply system having breaking / rupturing capacity of 350 MVA complete with spring operated mechanism, mechanically ON-OFF and spring mechanism charged, discharged indicators, ON-OFF mechanical push button, operation counters necessary auxiliary switches, closing shunt trip, air insulated busbar chamber having heat shrinkable PVC sleeves, mechanical interlocks safety shutters, isolating plugs and a VCB trolley with three vacuum interrupters with epoxy support insulators and self aligning finger type isolating contacts. The breaker shall be Manual cum motorised mechanism with following accessories.	Nos	455339.00	17544.00	472883.00
	1. Flush mounting type digital multifunctional meter with communication facility				
	2. Power Factor Meter One No				
	3. Double core current transformer cast resin type having ratio 200 to 50/1 core for metering & second core for protection having required class of accuracy.				
	4. Instantaneous under voltage relay - & Temperature rise Tripping Relay				
	5. Electrical closing coil & short trip coil operating on 110V. D.C.-				
	6. Auxiliary relay for anti pumping device				
	7. Three phase Three limb Drawout type feeder connected & output of 200 VA cast resin insulated potential transformer having ratio 12000V./110V. and 200 VA Burdon with 0.5 accuracy.				
	8. Common Alarm bell operating on 110V A.C.- One No.				
	9.Digital KWH Meter - One No.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	10. Cable boxes suitable up to 11 KV 3core 150 sq.mm XLPE cable.				
	11. 230V. A.C. to 110V. D.C. power pack for closing & tripping circuit common.. (for each VCB)				
	12.Breaker ON-OFF, Auto trip and spring charged indicators				
	13.Phase indicating & panel illumination lamps with plug socket				
	14.Numerical Communicable type non directional O/C & E/F Relay with a setting of 5-250% both in O/C & E/F.				
	complete with necessary interconnection with air insulated high grade copper busbar {Breaker Testing scope include Closing Time, Opening Time, VCB Hi-Pot test at Site}{ Relay Testing Scope Include testing of all protection by three phase testing kit at site }(VCB Trolley is to be provided)				
10-1-4.	Providing, erecting, testing commissioning & getting Plan Approval as well as NOC from Electrical Inspector for extensible H.T panel comprising of one 630A/800A/1250A. H.T. VCB incoming & Two outgoing 630/800/1250 A Drawout type VCB confirming as per I.S. for use on 11 KV, 3 phase, 50 c/s. unearthed A.C. supply system having breaking rupturing capacity of 350 MVA or Above complete with spring operated mechanism, mechanically & automatic ON-OFF and spring mechanism charged, discharged indicators, ON-OFF mechanical push button, operation counter necessary auxiliary switches, closing shunt trip, air insulated busbar chamber having heat shrinkable PVC sleeves, mechanical interlocks safety shutters, isolating plugs and a VCB trolley with three vacuum interrupters with epoxy support insulators and self aligning finger type isolating contacts. The breaker shall be Manual cum motorised mechanism & auto spring charge with TNC switch closing with following accessories. The Standard Companies Switchgear shall be Used and Only Manufactures as per IEC 61439 for beneficial use.	Ea.	1293263.00	22417.00	1315680.00
	1.flush mounting type digital multifunctional meter with communication facility - Three sets.				
	2. Power Factor Meter One No				
	3. Double core current transformer cast resin type having ratio 200 to 50/1 core for metering & second core for protection having required class of accuracy. - Three Sets				
	4. Instantaneous under voltage relay,Over Voltage relay & Temperature rise Tripping Relay				
	5. Electrical closing coil & short trip coil operating on 110V. D.C.- Three Sets				
	6. Auxiliary relay for anti pumping device				
	7. Three phase Three limb Drawout type feeder connected & output of 200 VA cast resin insulated potential transformer having ratio 12000V./110V. and 200 VA Burdon with 0.5 accuracy. - One No.				
	8. Common Alarm bell operating on 110V A.C.- One No.				
	9. Digital KWH Meter - One No.				
	10. Cable boxes suitable up to 11 KV 3core 150 sq.mm XLPE cable. - Three Nos.				
	11. 230V. A.C. to 110V. D.C. power pack for closing & tripping circuit common.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	12.Breaker ON-OFF, Auto trip and spring charged indicators. - Three Sets.				
	13.Phase indicating & panel illumination lamps with plug socket - Three Sets.				
	14.Numerical Communicable type non directional O/C & E/F Relay with a setting of 5-250% both in O/C & E/F. -Three Set				
	complete with necessary interconnection with air insulated high grade copper busbar {Breaker Testing scope include Closing Time, Opening Time, VCB Hi-Pot test at Site}{ Relay Testing Scope Include testing of all protection by three phase testing kit at site }(VCB Trolley is to be provided)				
10-1-5.	Supplying, installing, testing approved make Resin Vacuum Impregnated Dry Type, AN Naturally Cooled Double wound core type, suitable for Indoor / Outdoor Installation, Copper Wound 11/ 0.433 kV Step Down Transformer of following capacities operating on 3 phase,50Hz, 4wire and neutral earthed system. H.V. shall be connected Delta and Secondary with star connection having vector group Dyn-11.Continuously rated for a Temperature Rise in winding not exceeding 90 degree at maximum ambient temperature of 50 degree with F Class Insulation and 115 degree with H Class insulation respectively whichever is required. Following standard fitting as per applicable BIS 11171 & BIS 2026 with Off Circuit Links in steps of + /- 5%,+ /-2.5% on H.V. side for H.V. variation should be provided. The Transformer should have Cable end Boxes on H.T. side Suitable for 3 Core, 150Sq.mm. XLPE cable on L.T. side suitable for Busduct or Cable Box as per requirement.				
	Enclosure shall be painted with enamel paint shade 632 as per I.S.(Crompton/Kirloskar / Alstom / Voltamp make) 1. 1No. Winding Temperature Indicator with Alarm and Trip Contacts.				
	2. Rating and Diagram Plate				
	3. Off Circuit Tapping Links for + /-5%H.V. variation in steps, in steps of 2.5%				
	4. 2 Nos, Earthing Terminals .				
	5. Base Channel with Hauling Holes.				
	6. Lifting lugs for Transformer				
	7. Enclosure with suitable arrangement to accept H.V. L.V. Cables / Busduct				
	8. Ventilation grid.				
	9. Warning Plate				
	10.Junction Box for Winding Temperature Indicator.				
	11. Ventilation Louvers				
	12. Flat Rollers				
	13. Lifting lugs as applicable				
	14.Primary and Secondary Un-drilled Gland Plates./15. H.V. & L.V. and Neutral Terminal				
	(A) 315 KVA, 11/0.433 kV	Ea.	581092.00	22417.00	603509.00
	(B) 500 KVA, 11/0.433kV	Ea.	854280.00	28019.00	882299.00
	(C) 750 KVA, 11 /0.433 kV	Ea.	1049195.00	28019.00	1077214.00
	(D) 1000 KVA, 11 /0.433 kV	Ea.	2084746.00	42375.00	2127121.00
	(E) 1250 KVA, 11 /0.433 kV	Ea.	2457628.00	42375.00	2500003.00
SECTION 10-2 SUBSTATION EQUIPMENTS					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-2-1.	Providing and fixing printed instruction chart both in English and Gujarati and duly framed with front glasses, for treatment of person suffering from Electric shock with minimum 50" diagonally size.	Ea.	123.00	6.00	129.00
10-2-2.	Providing pair of rubber hand gloves suitable for working on 11 KV/22 KV supply.	Ea.	212.00		212.00
10-2-3	Supplying rubber matting of following thickness as per IS:15652/IEC 61111				
	(a)3mm	Sq.Mtr	763.00		763.00
	(b)4mm	Sq.Mtr	1017.00		1017.00
	(c)12mm	Sq.Mtr	3051.00		3051.00
10-2-4	Supplying stand first AID box with antiseptic cream, medicine for use on wounds due burn, crepe bandage, gauge bandage, medicated ready to use bandage (Band-aid) adhesive tape for medicinal user, Scissors, anti-septic solution (Savlon or similar) etc. (All above contents shall be of standard makes)	Ea.	297.00		297.00
10-2-5	Supplying FIRE bucket round bottom of 9 litres capacity made out of 24 gauge G.I. sheet with extra handle at bottom duly painted white inside and Red out side with FIRE mark, filled with dry-sand and kept on existing stand provided or hung on wall hook.	Ea.	212.00		212.00
10-2-6	Supplying and erecting floor mounting stand for keeping four nos. of FIRE buckets comprising 1500 mm in length, 900 mm height frame made out of 30mm X30 mm X 4 mm angle iron with cross supports for legs, welded with 4 hooks and duly painted with one coat of red lead and two coats of approved enamelled silver paint.	Ea.	890.00	43.00	933.00
10-2-7	Wall hook 22 to 25 cms. projection for keeping fire buckets made out of 15 mm dia. M.S rod grouted in wall to a depth of minimum 15 cms.	Ea.	40.00	20.00	60.00
10-2-8	Transformer oil having good resistance to high electrical stress, high di-electric strength (50KV) low viscosity, low pour point, high flash point and excellent thermal properties for efficient heat transfer and cooling as per I.S.335 -1972.	Ltr.	90.00		90.00
10-2-9	Filtration of transformer oil as per I.S. for removal of moisture, carbon. slurry etc.by means of circulating oil through vacuum pump from heating elements and filters to with stand the breaking strength of the oil above 40KV beyond one minute tested in oil testing Kit.				
	(A) on site.	Ltr.		8.00	8.00
	(B) at factory.	Ltr.		6.00	6.00
10-2-10	Providing, and erecting 11 KV D.P. 9 mtr. high Structure made of 6" x 3" 'I'-Section Girder, 4" x 2"channels, clamps, nuts, bolts etc. Suitable for erection of the followings duly connected with necessary ACSR conductors. as per drawing approved by the Engineer- in charge complete with following. Height as per IS 7 Mtr above ground)				
	(A) 11 KV 200 Amps Drop out fuses with S.R.B.P. tubes carries.-Three nos				
	(B) 11 KV G.O.D. switch complete with insulators, operating handle with galvanised pipe, Sq.bar etc. 400 Amp.- One Set				
	(C) 11 KV lightening arrestor with clamp-Three Nos.				
	(D) 11 KV shackle insulators- Six Nos.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(E) The above D.P. structure should be earthed with 25 mm.X 3 mm thick double copper earth strips run separately and connected with separate copper plate earth electrode.	Ea.	88984.00	8475.00	97459.00
10-2-11	Providing and erecting ISI Marked 3core 50 Sq.mm XLPE insulated 11 KV armoured cable Aluminium conductor IS-7098 to be laid on wall with clamps or in provided cable trench / pipe in approved manner as directed.	Mtr	1140.00	26.00	1166.00
10-2-12	Providing and erecting ISI Marked 3core 70 Sq.mm XLPE insulated 11 KV armoured cable Aluminium conductor IS-7098 to be laid on wall with clamps or in provided cable trench / pipe approved manner as directed.	Mtr	1297.00	26.00	1323.00
10-2-13	Providing and erecting ISI Marked 3 core 95 Sq.mm XLPE insulated 11 KV armoured cable Aluminium conductor IS-7098 to be laid on wall with clamps or in provided cable trench / pipe approved manner as directed.	Mtr	1314.00	43.00	1357.00
10-2-14	Providing and erecting ISI Marked 3core 120 Sq.mm XLPE insulated 11 KV armoured cable Aluminium conductor IS-7098 to be laid on wall with clamps or in provided cable trench / pipe approved manner as directed.	Mtr	1471.00	56.00	1527.00
10-2-15	Providing and erecting ISI Marked 3core 150 Sq.mm XLPE insulated 11 KV armoured cable Aluminium conductor IS-7098 to be laid on wall with clamps or in provided cable trench / pipe approved manner as directed.	Mtr	1738.00	64.00	1802.00
10-2-16	Providing and erecting ISI Marked 3core 185 Sq.mm XLPE insulated 11 KV armoured cable Aluminium conductor IS-7098 to be laid on wall with clamps or in provided cable trench / pipe approved manner as directed.	Mtr	1865.00	77.00	1942.00
10-2-17	Providing and erecting ISI Marked 3core 240 Sq.mm XLPE insulated 11 KV armoured cable Aluminium conductor IS-7098 to be laid on wall with clamps or in provided cable trench / pipe approved manner as directed.	Mtr	2119.00	77.00	2196.00
10-2-18	Providing and erecting cable end termination kit, heat shrinkable Push on type Densons'/ 'Raychem'/ Elastimold make suitable for 11 KV XLPE cable 3 core 50 & 70 Sq.mm				
	(A) Outdoor type	Ea.	12128.00	585.00	12713.00
	(B) Indoor type	Ea.	6043.00	585.00	6628.00
10-2-19	Providing and erecting cable end termination kit, heat shrinkable Push on type Densons'/ Raychem/ Elastimold make suitable for 11 KV XLPE cable 3core 95 & 120 Sq.mm				
	(A) Outdoor type	Ea.	13831.00	636.00	14467.00
	(B) Indoor type	Ea.	7289.00	636.00	7925.00
10-2-20	Supplying and erecting, high tension cable end box indoor type suitable for 11 KV 3core H.T cable up to 50 Sq.mm complete with gland, bushing and jointing material.	Ea.	1170.00	780.00	1950.00
10-2-21	Supplying and erecting high tension cable end box outdoor type suitable. for 11 KV 70Sq.mm 3core H.T. cable complete with gland bushing and jointing material.	Ea.	1755.00	975.00	2730.00
10-2-22	Supplying and erecting high tension cable end box outdoor type suitable. for 11 KV 95 / 120Sq.mm 3core H.T. cable complete with gland bushing and jointing material.	Ea.	2204.00	1017.00	3221.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-2-23	Supplying and erecting high tension cable end box outdoor type suitable. for 11 KV 150/185Sq.mm 3core H.T. cable complete with gland bushing and jointing material.	Ea.	2628.00	1187.00	3815.00
10-2-24	Supplying and erecting high tension cable end box outdoor type suitable. for 11 KV 240Sq.mm 3core H.T. cable complete with gland bushing and jointing material.	Ea.	2967.00	1187.00	4154.00
10-2-25	Supplying & erecting D.C.P. type fire extinguisher for following capacity cartridge type with gun metal cap 150 gram CO2 gas cartridge, powder and brackets confirming to IS 2171 1985 and complete erected with necessary clamps made from 50 x 6 mm M S Flat with nuts and bolts grouted in wall complete.				
	[A] For 5 Kg Capacity	Ea	1670.00	26.00	1696.00
	[B] For 10 KG Capacity	Ea	2178.00	26.00	2204.00
10-2-26	Supplying & erecting carbon dioxide (CO2) fire extinguisher user of following capacity with necessary clamps made from 50 x 6 mm M.S. Flat with nut & bolts grouted in wall complete.				
	[A] For 4.5 Kg Capacity	Ea	6500.00	26.00	6526.00
	[B] For 5.5 / 6.5 KG Capacity	Ea	8560.00	26.00	8586.00
10-2-27	Supplying & erecting ABC powder type 'Ceasefire' type Fire extinguisher as per IS 13849 or 1 Kg capacity with necessary clamp for erection on wall	Ea	814.00	26.00	840.00
10-2-28	Supplying and erecting Right angle / straight boot made from Synthetic rubber and suitable for covering of cable up to 400 sq mm & should be installed directly on DIN Bushing on HT VCB or Transformer without bending of boot.	Ea	1465.00	62.00	1527.00
SECTION 10-3 SUBSTATION MAINTENANCE					
10-3-1.	Carryout routine maintenance, servicing and testing of 400 Amps. H.T. OCB / VCB in accordance with I.S. 10119-1962 part I-to-IV with below defined scope: (1) Cleaning of dust,spider web ,foreign particles. Etc . (2) Removal of old grease with new grease for various parts.(3) Cleaning of various parts with CRC.(4) Check the tightness of all hardware (5)Checking of Spring Charging, Closing & Tripping mechanism (11) Measurement of IRV (12) Measuring of closing/tripping time by time testing kit (13) Measuring contact resistance by CRM kit.	Job		2331.00	2331.00
10-3-2.	Carry out routine maintenance and servicing and testing up to 6300 Amp L.T. ACB with below defined scope: (1) Cleaning of dust,spider web ,foreign particles. Etc . (2) Removal of old grease with new grease for various parts.(3) Cleaning of various parts with CRC.(4) Check the tightness of all hardware (5)Checking of Spring Charging, Closing & Tripping mechanism (11) Measurement of IRV (12) Measuring of closing/tripping time by time testing kit (13) Measuring contact resistance by CRM kit.(14) Release testing by OEM recommended testing kit.	Job		1818.00	1818.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-3-3.	Carryout routine maintenance and servicing of L.T. cubical panel board having approximately 15 to 22 Nos. of switches cleaning and servicing the contacts with CRC, tightening the connections of incoming and outgoing cables. and hacking the operating mechanism for smooth functioning of switches. and putting them in smooth working order.	Job		2119.00	2119.00
10-3-3(A)	Servicing, overhauling, cleaning of the panel board LT by liquid EPNF-065™ technology , after scanning the single side of panel by thermal scanning technology. Thermal scanning technology includes measuring temperature before and after servicing by each & every space of the panel board. One side of panel must be cleaned by Air Compressor Capacity 2.5 to 3.5 HP Motor, 1 or 3 phase, 230v, Air tank having capacity approx 50 kg with latest moisture filter, spray gun having EPNF-065™ liquid. The work having time constraints of 2 to 5 minutes single side of the panel. After finishing work agency has to provide 3 photographs or to provide 2 minutes video. Dust or any waste material must be collected by agency in the bottom of panel board by non woven fabrics material or any scientific materiel. Agency has to carry out work in presence of site in charge engineer & to complete the work as per site in charge engineer.	Sq.Mtr.	2050.00	2766.00	4816.00
	(Consider Measurement MIN. Sq.Mtr.) Scope Of Work :-a) liquid Cleaning, b) blowing by compressor & Cleaning, c) Thermal Scanning,d) Photograph & Videos e) Supervision by authorized Engineer				
10-3-3(B)	Servicing, overhauling, cleaning of the panel board HT by EPNF-065™ technology , after scanning the single side of panel by thermal scanning technology. Thermal scanning technology includes measuring temperature before and after servicing by each & every space of the panel board. One side of panel must be cleaned by Air Compressor Capacity 2.5 to 3.5 HP Motor, 1 or 3 phase, 230v, Air tank having capacity approx 50 kg with latest moisture filter, spray gun having EPNF-065™ liquid. The work having time constraints of 2 to 5 minutes single side of the panel. After finishing work agency has to provide 3 photographs or to provide 2 minutes video. Dust or any waste material must be collected by agency in the bottom of panel board by non woven fabrics material or any scientific materiel. Agency has to carry out work in presence of site in charge engineer & to complete the work as per site in charge engineer.	Sq.Mtr.	2651.00	2994.00	5645.00
	(Consider Measurement MIN. Sq.Mtr.) Scope Of Work :-a) liquid Cleaning, b) blowing by compressor & Cleaning, c) Thermal Scanning,d) Photograph & Videos e) Supervision by authorized Engineer.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-3-4.	Carrying out the testing of earth fault and overload relay by authorized person ,on L.T. side. by removing the fault of relay by checking the trip devices, control wiring and putting the same in working order with test report	Job		2119.00	2119.00
10-3-5.	Testing and calibration of relay series coils of H.T.O.C.B through primary Injection up to 3000 AMP (3 coils sets)	Job		2119.00	2119.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-3-6.	Routine maintenance of Transformer in operating covering Insulation Resistance oil breakdown strength, reconditioning /replacement of silica gel, cleaning of transformer & topping up to of oil if required .(Oil will be provided departmentally or at extra cost.)	Job		2543.00	2543.00
10-3-7.	Testing of transformer oil by calibrated instrument for dielectric breakdown strength with test report	Job		424.00	424.00
10-3-8.	Measurement of earthing resistance by loop test with authorized test report after isolating & cleaning joint.	Per Earth Pit		424.00	424.00
10-3-9.	Dismantling and refitting of transformer including cost of required new M.S. bolts of following capacity transformer				
	(A) 250 KVA	Ea.	483.00	1584.00	2067.00
	(B) 315 KVA	Ea.	483.00	1584.00	2067.00
	(C) 500 KVA	Ea.	398.00	1828.00	2226.00
	(D) 630 KVA	Ea.	334.00	2315.00	2649.00
	(E)1000/1250 KVA	Ea.	450.00	3046.00	3496.00
	(F) 1600 KVA	Ea.	584.00	3656.00	4240.00
10-3-10.	Replacing old and unserviceable gasket of Top cover plate of Transformer having following capacity.				
	(A) 250 KVA	Ea.	378.00	62.00	440.00
	(B)315 KVA	Ea.	378.00	62.00	440.00
	(C)500 KVA	Ea.	512.00	62.00	574.00
	(D)750 KVA	Ea.	766.00	62.00	828.00
	(E)1000/1250 KVA	Ea.	1009.00	62.00	1071.00
	(F)1600 KVA	Ea.	2588.00	62.00	2650.00
10-3-11.	Replacing old & unserviceable gasket bushing of H.T. for the following capacity Transformer				
	(A)250 KVA	Ea.	196.00	38.00	234.00
	(B)315 KVA	Ea.	217.00	38.00	255.00
	(C)500 KVA	Ea.	260.00	38.00	298.00
	(D)750 KVA	Ea.	281.00	38.00	319.00
	(E)1000/1250 KVA	Ea.	313.00	38.00	351.00
	(F)1600 KVA	Ea.	334.00	38.00	372.00
10-3-12.	Replacing old & unserviceable gasket bushing of L.T. for the following capacity Transformer				
	(A)250 KVA	Ea.	133.00	38.00	171.00
	(B)315 KVA	Ea.	133.00	38.00	171.00
	(C)500 KVA	Ea.	175.00	38.00	213.00
	(D)750 KVA	Ea.	202.00	38.00	240.00
	(E)1000/1250 KVA	Ea.	250.00	38.00	288.00
	(F)1600 KVA	Ea.	260.00	38.00	298.00
10-3-13.	Removing the laminated core plate of the following capacity Transformer.				
	(A)250 KVA	Ea.		1325.00	1325.00
	(B)315 KVA	Ea.		1590.00	1590.00
	(C)500 KVA	Ea.		1590.00	1590.00
	(D)750 KVA	Ea.		2119.00	2119.00
	(E)1000/1250 KVA	Ea.		2649.00	2649.00
	(F)1600 KVA	Ea.		2861.00	2861.00
10-3-14.	Removing washer ring for the coils of the following capacity Transformer				
	(A)250 KVA	Ea.	62.00	13.00	75.00
	(B)315 KVA	Ea.	73.00	13.00	86.00
	(C)500 KVA	Ea.	115.00	13.00	128.00
	(D)750 KVA	Ea.	126.00	13.00	139.00
	(E)1000/1250 KVA	Ea.	136.00	13.00	149.00
	(F)1600 KVA	Ea.	200.00	13.00	213.00
10-3-15.	Replacing the burnt unserviceable H.T. side winding coils for the transformer including rewinding, varnishing, vacuuming etc.				
	(A) For Copper Coils	Kg.	448.00	62.00	510.00
	(B)For Aluminium coils	Kg.	215.00	62.00	277.00
10-3-16.	Replacing the burnt / unserviceable L.T side winding coils for transformer including rewinding, varnishing, vacuuming etc.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(A) For Copper Coils	Kg.	406.00	62.00	468.00
	(B) For Aluminium Coils	Kg.	194.00	62.00	256.00
10-3-17.	Insulating the HT/LT copper Aluminium coils of transformer.	Kg.	157.00	30.00	187.00
10-3-18.	Re insulating the HT / LT Copper / Alum. Coils of the following capacity transformer				
	(A) 250 KVA	Kg.	36.00	50.00	86.00
	(B) 315 KVA	Kg.	36.00	50.00	86.00
	(C) 500 KVA	Kg.	62.00	50.00	112.00
	(D) 750 KVA	Kg.	70.00	50.00	120.00
	(E) 1000 KVA	Kg.	78.00	50.00	128.00
	(F) 1250 KVA	Kg.	84.00	50.00	134.00
	(F) 1600 KVA	Kg.	91.00	50.00	141.00
10-3-19.	Inside painting of 250/ 315 / 500 / 750 / 1000 /1250 KVA transformer.	Ea.	1295.00	147.00	1442.00
10-3-20.	Outside painting of Transformer for the following capacity				
	(A) 250 / 315 / 500 KVA	Ea.	1373.00	195.00	1568.00
	(B) 750 / 1000/1250 KVA	Ea.	1549.00	147.00	1696.00
10-3-21.	Replacing the valve of the Transformer of rating capacity 250 / 315 / 500 / 750 / 1000 /1250 KVA of following size				
	(A) 3/4"	Ea.	256.00	31.00	287.00
	(B) 1"	Ea.	563.00	31.00	594.00
	(C) 1.1/4"	Ea.	410.00	31.00	441.00
	(D) 1.1/2"	Ea.	457.00	31.00	488.00
10-3-22.	Replacing the oil level glass of the 250/315/500/750/1000/ 1250 KVA by new one	Ea.	72.00	25.00	97.00
10-3-23.	Replacing the breather of the Transformer of following capacity.				
	(A) 250 KVA / 315 KVA	Ea.	1187.00	85.00	1272.00
	(B) 500 KVA/750 KVA/1000 /1250 KVA	Ea.	1526.00	170.00	1696.00
10-3-24.	Repairing of off load Tap changer of 250 / 315 / 500 / 750 / 1000 /1250 KVA Transformer.	Ea.	992.00	195.00	1187.00
10-3-25.	Replacement of off load Tap changer of 250 KVA / 315 / 500 / 750/1000/1250 KVA Transformer	Ea.	2941.00	195.00	3136.00
10-3-26.	Replacing H.T. bushing of 250 / 315 / 500 / 750 / 1000 /1250 KVA transformer by new one.	Ea.	215.00	25.00	240.00
10-3-27.	Replacing H.T Bushing metal parts of 250 KVA / 315 / 500 / 750 / 1000 /1250 KVA Transformer by new one.	Ea.	298.00	31.00	329.00
10-3-28.	Replacing H.T. bushing all other parts of 250 KVA / 315 / 500 / 750 / 1000 /1250 KVA Transformer.	Ea.	161.00	31.00	192.00
10-3-29.	Replacing L.T. bushing of following capacity Transformer				
	(A) 250 KVA / 315 KVA	Ea.	66.00	20.00	86.00
	(B) 500 / 750 / 1000/1250 KVA	Ea.	91.00	20.00	111.00
10-3-30.	Replacing L.T.Bushing metal parts of 250 / 315 / 500 / 750 / 1000 /1250 KVA Transformer.	Ea.	419.00	38.00	457.00
10-3-31.	Replacing L.T.Bushing all / other parts of the 250 / 315 / 500 / 750 / 1000 KVA /1250 kva transformer.	Ea.	599.00	38.00	637.00
10-3-32.	Drying the repaired transformer with appropriate heat air of following capacity transformer.				
	(A) 250 KVA / 315 KVA	Ea.		1823.00	1823.00
	(B) 500 KVA	Ea.		1907.00	1907.00
	(C) 750 KVA	Ea.		2119.00	2119.00
	(D) 1000 KVA	Ea.		2289.00	2289.00
	(E) 1250 KVA	Ea.		2543.00	2543.00
10-3-33.	Carrying out various routine test as per instruction of in charge for following capacity transformer.				
	(A) 250 KVA / 315 KVA	Ea.		1484.00	1484.00
	(B) 500 KVA / 750 KVA/ 1000 KVA/1250 KVA	Ea.		2543.00	2543.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-3-34.	Assembling the repaired / replace copper Aluminium coils of the following capacity transformer				
	(A) 250 KVA / 315 KVA / 500 KVA	Ea.		1865.00	1865.00
	(B)750 KVA/ 1000 KVA/1250 KVA	Ea.		1950.00	1950.00
10-3-35.	Conveyance charges for transformer from workshop to site or back. one side)				
	(I) Local up to 10 Km	Ea.		382.00	382.00
	(ii) Outside Divisional Head Quarter for first 30 Km from store.	Ea.		424.00	424.00
	(iii)Add for each block of additional 30 Km	Ea.		212.00	212.00
10-3-36.	Loading/Unloading transformer on one side				
	(A) 250 KVA / 315/500 KVA	Ea.		3051.00	3051.00
	(B) 750/1000 KVA/1250 KVA	Ea.		5001.00	5001.00
10-3-37.	Supplying & fixing Steel Chequered Plate having 7 mm thickness, duly painted with two coats of black Japan colour. (Average Wt 61.1 kg / Sq.Mtr)	Sq.Mtr.	3313.00	184.00	3497.00
10-3-38.	Supplying & fixing Steel Chequered Plate having 10 mm thickness,with handle duly painted with two coats of black Japan colour. (Average Wt 84.6 kg / Sq.Mtr)	Sq.Mtr.	4373.00	184.00	4557.00
10-3-39.	Supplying & fixing Steel Chequered Plate having 12 mm thickness, duly painted with two coats of black Japan colour. (Average Wt 200.3 kg / Sq.Mtr)	Sq. Mtr.	5478.00	245.00	5723.00
10-3-40.	Supplying & Fixing SMC Chequered plate having 7 mm thickness, made out of SMC Confirming to IS 13410 & by Hot press Compression Moulding technique Suitable cut & fixed with MS Angle Frame to Fit Trench Widths as per site requirement approved .by engineer incharge	Sq. Mtr.	3390.00	204.00	3594.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-3-41.	Supplying & Fixing SMC Chequered plate having 10 mm thickness, made out of SMC Confirming to IS 13410 & by Hot press Compression Moulding technique Suitable cut & fixed with MS Angle Frame to Fit Trench Widths as per site requirement approved by engineer incharge	Sq. Mtr.	4238.00	255.00	4493.00
10-3-42.	Supplying & Fixing SMC Chequered plate having 12 mm thickness, made out of SMC Confirming to IS 13410 & by Hot press Compression Moulding technique Suitable cut & fixed with MS Angle Frame to Fit Trench Widths as per site requirement approved .by engineer incharge	Sq. Mtr.	5509.00	331.00	5840.00
10-4 Generating Sets					
10-4-1	Supplying portable generator set with petrol start and kerosene run engine confirming to IS: 4722:1968 & BS:5514 ,4 stroke, single cylinder, 179 C.C., TCI ignition system, centrifugal governor, air cooled, semi dry type air cleaner and recoil starter, noise suppressor, oil alert system, with brushless, self exciting, two pole, rotating field type "E" class insulation alternator suitable to give 1400 VA output at 220 +/-13 Volts A.C. with rated current of 6.4 Amps with built in voltmeter, non fuse circuit breaker along with one set of tool kit comprising of one spanner, screw driver, spark plug opener complete duly tested at full load for continuous 2 hour with first filling of oil and fuel. Generator Set of following capacity				
	(A) 1400 VA output at 220 +/- 13 Volts A.C.	Each	33475.00		33475.00
	(B) 2000 VA output at 220 +/- 13 Volts A.C.	Each	41526.00		41526.00
	NOTE:- Add Rs 2600/- for Diesel Start / Run for above				
10-4-2	Supplying and erecting, commissioning and testing of Diesel Generating set confirming to IS: 4722:1968 & BS:5514 having continuous rating, 3 phase, 415 volts, 50 cycles A.C. supply comprising of a totally enclosed air/water cooled diesel engine with multi-cylinders developing suitable BHP not less than following capacity at 1500 RPM with 10% overload for one hour in 24 hours with standard accessories like fly wheel, lubricating oil cooler, "A" class governor, heavy duty fuel wheel and lubricating oil filter, oil bath air filler, lubricating oil pressure gauge, end exhaust manifold, standard set of tools with adjustable spanners, screw drivers, cylinder head to cover, joint cylinder head to exhaust, element lube oil filter, 12 / 24 volts electric starting equipment complete with standard heavy duty battery, dynamo, cut-outs, ammeter, necessary wiring, pressure gauge, starter etc and heavy duty Residential type exhaust silencer (With DEF System) and vertical hot air duct both				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	logged with asbestos rope, save oil trays, exhaust piping of required length, standard wall/floor mounted fuel with level indicator and piping and drip proof alternator, self excited, self regulated, screen protected, with excitation system, capable of delivering the rated system output at 415 volts, 3 phase, 0.8 PF, 50 Hz, 4 wire, running at 1500 RPM, conforming to IS-4722- 1968 with voltage regulation +/- 5% of rated voltage from no load to full load. Both the engine and alternator fitted on a common fabricated steel base plate with antivibration mounting engine and alternator both connected to each other by flexible flange coupling and with floor/wall mounted control panel box comprising of voltmeter ammeter, selector switches, ACB / MCCB / MCB of adequate capacity,				
	indicator lamps duly wired with HRC fuses. The alternator & control panel shall be connected with provided suitable capacity armoured cable and complete with Acoustic enclosure (canopy) made out of 16 SWG CRCA Sheet, sound absorbing material Rockwool of 64 density & 100 mm thick conforming to IS:8183 / PU Foam of 40 Density - at least 40 mm. The resin bonded rockwool covered from inside the canopy by perforated sheet with 3/4 mm holes, sound level not more than 75 dB at a distance of 1 mtr, as per PVCT norms.DG set should have in built fuel tank capacity of minimum 8 hrs of continous running capacity on full load . Erection, commissioning and satisfactory testing as per requirement with first filling of fuel (minimum up to the 80% of fuel tank capacity), oil, etc. with guarantee / Warrantee of complete system for Two years. & with obtaining all necessary certificate from Electrical Inspector. The Capacity and Ratings of DG sets are as below. (As per new CPCB4+ Emission norms Engine With - Turbo Charger, EGR (Exhaust Gas Recirculation), CRS (Common Rail Fuel System), DOC (Diesel Oxidation Catalyst), SCR (Selective Catalytic Reduction), Integrated wiring harness connected to ECU .)				
	(A) Continuous Rating of 10 KVA ,BHP not less than 15 BHP	Each	278868.00	1823.00	280691.00
	(B) Continuous Rating of 15 KVA ,BHP not less than 20 BHP	Each	333473.00	1867.00	335340.00
	(C) Continuous Rating of 20 KVA ,BHP not less than 26 BHP	Each	352133.00	1867.00	354000.00
	(D) Continuous Rating of 25 KVA ,BHP not less than 32 BHP	Each	406136.00	2164.00	408300.00
	(E) Continuous Rating of 30 KVA ,BHP not less than 42 BHP	Each	464458.00	2164.00	466622.00
	(F) Continuous Rating of 40 KVA ,BHP not less than 52 BHP	Each	505188.00	2462.00	507650.00
	(G) Continuous Rating of 45 KVA ,BHP not less than 52 BHP	Each	526374.00	2462.00	528836.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(H) Continuous Rating of 50 KVA ,BHP not less than 65.8 BHP	Each	645441.00	2462.00	647903.00
	(I) Continuous Rating of 62.5 KVA ,BHP not less than 76 BHP	Each	666096.00	3057.00	669153.00
	(J) Continuous rating of 75 KVA ,BHP not less than 91 BHP	Each	709634.00	3480.00	713114.00
	(K) Continuous rating of 82.5 KVA ,BHP not less than 102 BHP	Each	731774.00	3480.00	735254.00
	(L) Continuous rating of 100 KVA ,BHP not less than 126 BHP	Each	954548.00	4075.00	958623.00
	(M) Continuous rating of 125 KVA ,BHP not less than 154 BHP	Each	1014929.00	4075.00	1019004.00
	(N) Continuous rating of 140 KVA ,BHP not less than 166 BHP	Each	1284950.00	4075.00	1289025.00
	(O) Continuous rating of 160 KVA ,BHP not less than 197 BHP	Each	1377853.00	4923.00	1382776.00
	(P) Continuous rating of 180 KVA ,BHP not less than 235 BHP	Each	1470856.00	6113.00	1476969.00
	(Q) Continuous rating of 200 KVA ,BHP not less than 254 BHP	Each	1568209.00	6113.00	1574322.00
	(R) Continuous rating of 250 KVA ,BHP not less than 309 BHP	Each	1942993.00	7303.00	1950296.00
	(S) Continuous rating of 320 KVA ,BHP not less than 375 BHP	Each	2604874.00	9790.00	2614664.00
	(T) Continuous rating of 380 KVA ,BHP not less than 445 BHP	Each	2837924.00	10665.00	2848589.00
	(U) Continuous rating of 400 KVA ,BHP not less than 480 BHP	Each	2944916.00	11001.00	2955917.00
	(V) Continuous rating of 500 KVA ,BHP not less than 600 BHP	Each	4004238.00	13942.00	4018180.00
	AMF panel				
10-4-3	Providing & erecting approved make AMF control panel suitable for following size of 3 phase, 415 V., 50 cycles, A.C. diesel generating set complete of scope as detailed below: 1) Power module: A pair of electromechanically interlocked contactors (for mains & generator) Overload relay for generator contactor Neutral contactor for mains and generator Power socket for connections. 2) Control and metering module: Line voltage monitor. Generator voltage monitor Ammeter 3 items attempt start facility. Air circuit breakers/MCB/MCCB of suitable rating for auto/manual operation. Auto/manual switch. Emergency stop push buttons. Manual start push button. frequency meter. Engine hour meter. Two earthing studs.				
	3) Protection module: The engine shutdown in the unlikely event of Low lube oil pressure High cylinder head temperature. V belt failure. 4) Indicators with alarm Load on generator. 5) Indicators Load on mains Engine fails to start . Emergency stop battery charger. The AMF Panel of following capacity				
	(A) AMF Control Panel for 50/62.5 KVA 3 phase DG Set	Each	94662.00	1695.00	96357.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(B) AMF Control Panel for 75 KVA/82.5 KVA 3 phase DG Set	Each	107967.00	1695.00	109662.00
	(C) AMF Control Panel for 100 KVA/125 KVA 3 phase DG Set	Each	118306.00	1695.00	120001.00
	(D) AMF Control Panel for 200 KVA/250 KVA 3 phase DG Set	Each	217119.00	3390.00	220509.00
	(E) AMF Control Panel for 300 KVA/320 KVA 3 phase DG Set	Each	277594.00	4238.00	281832.00
	(F) AMF Control Panel for 380 KVA/ 400 KVA 3 phase DG Set	Each	346399.00	5085.00	351484.00
	(G) AMF Control Panel for 500 KVA 3 phase DG Set	Each	432998.00	5933.00	438931.00
10-4-3	Providing & erecting approved make ATS panel suitable for following size of 3 phase, 415 V., 50 cycles, A.C. diesel generating set complete of scope as detailed below: 1) Power module: Motorised Changeover switch with ATS controller, Auxiliary contactor with NO & NC contacts with Automatic Battery Charger, indicating lamps for Generator ON, Mains ON, Load and suitable control terminals and power terminals with neutral earthing studs.				
	(A) ATS Panel for 15/20 / 25 KVA 3 phase DG Set	Each	38136.00	1695.00	39831.00
	(B) ATS Panel for 30 KVA/40 / 45 KVA 3 phase DG Set	Each	46611.00	1695.00	48306.00
	(C) ATS Panel for 50 / 62.5 KVA 3 phase DG Set	Each	55085.00	1695.00	56780.00
	(D) ATS Panel for 75 KVA/82.5 KVA 3 phase DG Set	Each	59323.00	3390.00	62713.00
	(E) ATS Panel for 100/ 125 KVA 3 phase DG Set	Each	67797.00	4238.00	72035.00
	(F) ATS Panel for 160 KVA 3 phase DG Set	Each	76272.00	5085.00	81357.00
	(G) ATS Panel for 180 / 250 KVA 3 phase DG Set	Each	84746.00	5933.00	90679.00
	(H) ATS Panel for 320 KVA/ 380 / 400 /500 KVA 3 ph DG Set	Each	169492.00	8475.00	177967.00
Acoustic enclosure (canopy)					
10-4-4	Supplying and erecting Acoustic enclosure (canopy) made out of 18 SWG, CRCA Sheet, sound absorbing material Rockwool of 64 density & 100 mm thick conforming to IS:8183 The resin bonded Rockwool / PU FOAM covered from inside level not more than 75 dB at a distance of 1 mtr, as PVCT norms , on provided foundation suitable for following size of DG Set. The enclosures for following capacity of DG sets.				
	(A) For 10/15/20/25 KVAD.G. set	Each	88547.00	1272.00	89819.00
	(B) For 30 KVA/45 KVA	Each	112149.00	1272.00	113421.00
	(C) For 50 KVA/62.5 KVA	Each	129831.00	1272.00	131103.00
	(D) For for 75 KVA to 82.5 KVA, 100/125/140 KVA	Each	188814.00	1695.00	190509.00
	(E) For for 160/180/200/250 KVA	Each	259662.00	2543.00	262205.00
	(F) For 320 kVA	Each	310170.00	3390.00	313560.00
	(G) For 380 kVA / 400 kVA	Each	347458.00	4238.00	351696.00
	(H) For 500 kVA	Each	389831.00	5085.00	394916.00
Compact substation					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-4-5.	Supply of 250 KVA Outdoor type Compact Substation consisting of Transformer, HT switchgear and LT Switchgear and confirming to IEC-62227. a) Transformer: 250 KVA Copper wound 11KV /433 V DYn11, Dry Cast resin type Transformer with tapping range +10 to -10% @ 2.5% (with tolerance), class F , with surge restorers, Digital WTI, IS1171 as per b) HT Compartment: 11KV, 21kA for 3 Sec . 630 A 50 Hz, gas insulated VCB in SS tank in sheet enclosure having provision for one no. direct connection of Incoming supply cable upto 300sq mm and one no. VCB(Manually charging & closing) in series with LBS between VCB and Transformer, Self Powered Relay 3 O/C +1 E/F Relay type CSPR-V5, mechanical ON/OFF indicator, trip coil , Manual Close & Trip PB, live cable indicator, mechanical interlocks, pad locking facility, SF6 gas manometer, cable boots, 3 nos. CTs with Ratio /1A, CI: 5P10, 2.5 VA for protection c) LV side compartment : one no. MCCB of 400A, 36kA, 4Pole, Microprocessor based release with arrangement for bottom cable termination	Each	190678.00	105938.00	296616.00
	(100% for phase & 50% for N, Current density 1A/ sq mm) The enclosure should be of IK10 type. The Enclosure shall construction shall be GI of thickness at least 1.6/2mm. The enclosure shall be Powder Coated. Each compartment will be provided with the door and pad locking arrangement. The Compartment illumination lamp with door operated switch shall be provided for each compartment. The Transformer compartment will have IP-34 ingress protection, whereas the HT/LT compartment will have IP-54 protection. The connection between HT and Transformer shall be by 3 runs of single core 95 sq mm XLPE aluminium cable and between Transformer to LT switchgear shall be by appropriate Aluminium PVC sleeved Busbar				
	Add extra Rs 9000/- for integrated steel cubical panel IP 54 to house upto 03 Nos additional outgoing switchgears with proper rating busbar drop, supports etc with arrangement for cable termination etc. (Switchgears is not included in this)				
	Add extra Rs 16000/- for integrated steel cubical panel IP 54 to house upto 06 Nos additional outgoing switchgears with proper rating busbar drop, supports etc with arrangement for cable termination etc. (Switchgears is not included in this)				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-4-6.	Supply of 315 KVA Outdoor type Compact Substation consisting of Transformer, HT switchgear and LT Switchgear and confirming to IEC-62227. a) Transformer: 315 KVA Copper wound 11KV /433 V DYn11, Dry Cast resin type Transformer with tapping range +10 to -10% @ 2.5% (with tolerance), class F , with surge restorers, Digital WTI, IS1171 as per b) HT Compartment: 11KV, 21kA for 3 Sec . 630 A 50 Hz, gas insulated VCB in SS tank in sheet enclosure having provision for one no. direct connection of Incoming supply cable upto 300sq mm and one no. VCB(Manually charging & closing) in series with LBS between VCB and Transformer, Self Powered Relay 3 O/C +1 E/F Relay type CSPR-V5, mechanical ON/OFF indicator, trip coil , Manual Close & Trip PB, live cable indicator, mechanical interlocks, pad locking facility, SF6 gas manometer, cable boots, 3 nos. CTs with Ratio /1A, CI: 5P10, 2.5 VA for protection c) LV side compartment : one no. MCCB of 500A, 36kA, 4Pole, Microprocessor based release with arrangement for bottom cable termination	Each	198305.00	110175.00	308480.00
	(100% for phase & 50% for N, Current density 1A/ sq mm) The enclosure should be of IK10 type. The Enclosure shall construction shall be GI of thickness at least 1.6/2mm. The enclosure shall be Powder Coated. Each compartment will be provided with the door and pad locking arrangement. The Compartment illumination lamp with door operated switch shall be provided for each compartment. The Transformer compartment will have IP-34 ingress protection, whereas the HT/LT compartment will have IP-54 protection. The connection between HT and Transformer shall be by 3 runs of single core 95 sq mm XLPE aluminium cable and between Transformer to LT switchgear shall be by appropriate Aluminium PVC sleeved Busbar				
	Add extra Rs 9000/- for integrated steel cubical panel IP 54 to house upto 03 Nos additional outgoing switchgears with proper rating busbar drop, supports etc with arrangement for cable termination etc.(Switchgears is not included in this)				
	Add extra Rs 16000/- for integrated steel cubical panel IP 54 to house upto 06 Nos additional outgoing switchgears with proper rating busbar drop, supports etc with arrangement for cable termination etc.(Switchgears is not included in this)				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-4-7.	Supply of 400 KVA Outdoor type Compact Substation consisting of Transformer, HT switchgear and LT Switchgear and confirming to IEC-62227. a) Transformer: 400 KVA Copper wound 11KV /433 V DYn11, Dry Cast resin type Transformer with tapping range +10 to -10% @ 2.5% (with tolerance), class F , with surge restorers, Digital WTI, IS1171 as per b) HT Compartment: 11KV, 21kA for 3 Sec . 630 A 50 Hz, gas insulated VCB in SS tank in sheet enclosure having provision for one no. direct connection of Incoming supply cable upto 300sq mm and one no. VCB(Manually charging & closing) in series with LBS between VCB and Transformer, Self Powered Relay 3 O/C +1 E/F Relay type CSPR-V5, mechanical ON/OFF indicator, trip coil , Manual Close & Trip PB, live cable indicator, mechanical interlocks, pad locking facility, SF6 gas manometer, cable boots, 3 nos. CTs with Ratio /1A, CI: 5P10, 2.5 VA for protection c) LV side compartment : one no. MCCB of 630A, 36kA, 4Pole, Microprocessor based release with arrangement for bottom cable termination	Each	216610.00	120345.00	336955.00
	(100% for phase & 50% for N, Current density 1A/ sq mm) The enclosure should be of IK10 type. The Enclosure shall construction shall be GI of thickness at least 1.6/2mm. The enclosure shall be Powder Coated. Each compartment will be provided with the door and pad locking arrangement. The Compartment illumination lamp with door operated switch shall be provided for each compartment. The Transformer compartment will have IP-34 ingress protection, whereas the HT/LT compartment will have IP-54 protection. The connection between HT and Transformer shall be by 3 runs of single core 95 sq mm XLPE aluminium cable and between Transformer to LT switchgear shall be by appropriate rating Aluminium PVC sleeved Busbar				
	Add extra Rs 9000/- for integrated steel cubical panel IP 54 to house upto 03 Nos additional outgoing switchgears with proper rating busbar drop, supports etc with arrangement for cable termination etc. (Switchgears is not included in this)				
	Add extra Rs 16000/- for integrated steel cubical panel IP 54 to house upto 06 Nos additional outgoing switchgears with proper rating busbar drop, supports etc with arrangement for cable termination etc. (Switchgears is not included in this)				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-4-8.	Supply of 500 KVA Outdoor type Compact Substation consisting of Transformer, HT switchgear and LT Switchgear and confirming to IEC-62227. a) Transformer: 500 KVA Copper wound 11KV /433 V DYn11, Dry Cast resin type Transformer with tapping range +10 to -10% @ 2.5% (with tolerance), class F , with surge restorers, Digital WTI, IS1171 as per b) HT Compartment: 11KV, 21kA for 3 Sec . 630 A 50 Hz, gas insulated VCB in SS tank in sheet enclosure having provision for one no. direct connection of Incoming supply cable upto 300sq mm and one no. VCB(Manually charging & closing) in series with LBS between VCB and Transformer, Self Powered Relay 3 O/C +1 E/F Relay type CSPR-V5, mechanical ON/OFF indicator, trip coil , Manual Close & Trip PB, live cable indicator, mechanical interlocks, pad locking facility, SF6 gas manometer, cable boots, 3 nos. CTs with Ratio /1A, CI: 5P10, 2.5 VA for protection c) LV side compartment : one no. ACB of 800A, 50kA, 4Pole, Microprocessor based release with arrangement for bottom cable termination	Each	1510170.00	139838.00	1650008.00
	(100% for phase & 50% for N, Current density 1A/ sq mm) The enclosure should be of IK10 type. The Enclosure shall construction shall be GI of thickness at least 1.6/2mm. The enclosure shall be Powder Coated. Each compartment will be provided with the door and pad locking arrangement. The Compartment illumination lamp with door operated switch shall be provided for each compartment. The Transformer compartment will have IP-34 ingress protection, whereas the HT/LT compartment will have IP-54 protection. The connection between HT and Transformer shall be by 3 runs of single core 95 sq mm XLPE aluminium cable and between Transformer to LT switchgear shall be appropriate rating Aluminium PVC sleeved Busbar				
	Add extra Rs 9000/- for integrated steel cubical panel IP 54 to house upto 03 Nos additional outgoing switchgears with proper rating busbar drop, supports etc with arrangement for cable termination etc. (Switchgears is not included in this)				
	Add extra Rs 16000/- for integrated steel cubical panel IP 54 to house upto 06 Nos additional outgoing switchgears with proper rating busbar drop, supports etc with arrangement for cable termination etc. (Switchgears is not included in this)				
10-4-9.	SITC of SF6 gas insulated Single VCB: Sheet steel enclosed, free standing, Outdoor mounted, 11 kV, 630A, 21kA/3s, 1 WAY Non - extensible SF6 gas insulated VCB, consisting of One no. direct connection of Incoming supply cable upto 300sq mm and one no. VCB(Manually charging & closing) in series with LBS between VCB and Transformer, Self Powered Relay 3 O/C +1 E/F Relay type CSPR-V5 , mechanical ON/OFF indicator, trip coil , Manual Close & Trip PB, live cable indicator, mechanical interlocks, pad locking facility, SF6 gas manometer, cable boots, 3 nos. CTs with Ratio -/1A, CI: 5P10, 2.5 VA for protection	Each	152543.00	16950.00	169493.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-4-10.	Providing & erecting capacitor duty contactor 3 phase, 415 V with proper connection for following rating:				
	(A) 10 KVAR	Each	1621.00	181.00	1802.00
	(B) 15 KVAR	Each	2277.00	253.00	2530.00
	(C) 20 KVAR	Each	2605.00	290.00	2895.00
	(D) 25 KVAR	Each	2895.00	322.00	3217.00
	(E)50 KVAR	Each	8203.00	912.00	9115.00
10-4-11.	Design, Supplying, installing, testing of factory fabricated ready made Three phase APFC Panel Cubical Panel fabrication should be type tested as per IEC 61921, 61439:1&2 Capacitor Duty Contactor for switching as per following Steps Incomer Switch of MCCB type Icu=Ics=50KA at 400/440 Volts, with OC, SC, internal earth fault protection Incomer Switch of MCCB type Icu=Ics=50KA at 400/440 Volts, with OC, SC, internal earth fault protection,Copper tinned insulated Busbar,Cubical panel should be indoor type with IP 43 and IK 10,Metalized polypropylene film tye3-phase 550Volt Capacitor,De tuning Reactor for each capacitor,Panel having Short Circuit and Overload protection,Each step Capacitor having suitable MCB with Sc, OL, internal earth fault relay,Each stage having Stage Contactor (Capacitor load rating),PF regulator master controller having suitable steps with LCD display, Rs 485 Communication port, Indication LED Lamps for main incomer and ON-OFF for each capacitor bank,MS Chanel for Floor mounting, Cable entry as per site situation,Cooling fans for panel				
	(A)50KVAR	Each	135594.00	5933.00	141527.00
	(B)75KVAR	Each	207628.00	8475.00	216103.00
	(C)100KVAR	Each	275424.00	10594.00	286018.00
	(D)125KVAR	Each	338984.00	15255.00	354239.00
	(E)150KVAR	Each	411017.00	17798.00	428815.00
	(f)200KVAR	Each	550848.00	23730.00	574578.00
	(g)250KVAR	Each	677967.00	33900.00	711867.00
10-4-12.	Providing Batteries With Standard . IEC61056-3 OR JIS C 8702, Battery type - Maintenance Free Or Minimum Maintenance Lead Acid , Battery @ C20 Rating -12V, Cut Off Voltage(at 25 deg C- 10.2V, Float Charging Voltage-13.5 volts per module @ 27 deg C, Voltage ripple allowable - <2% of the RMS value, AH Efficiency- Above 95%, Operating Temperature range of Battery- -20 deg C to + 60 deg C, Date of manufacturing - The date of Manufacturing shall not be more than 6 Months older than the date of supply.				
	28Ah		3179.00	200.00	3379.00
	35 Ah		3576.00	200.00	3776.00
	40Ah		3982.00	200.00	4182.00
	45Ah		5743.00	200.00	5943.00
	65Ah		6486.00	200.00	6686.00
	75Ah		6603.00	200.00	6803.00
	80Ah		6968.00	200.00	7168.00
	88Ah		7159.00	200.00	7359.00
	90Ah		7612.00	200.00	7812.00
	100Ah		10341.00	200.00	10541.00
	130Ah		12354.00	200.00	12554.00
	150Ah		16021.00	200.00	16221.00
	180Ah		16647.00	200.00	16847.00
	200Ah		18999.00	200.00	19199.00
LIGHTNING ARRESTER					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-5-1	SITC of Vertical Air Termination Solid aluminium with Base- 10 mm dia and 1000 mm long. Air Termination Base tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350µs waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol with MAST 34mm dia 3000 mm long- Cold Galvanized	Each	8899.00	424.00	9323.00
10-5-2	SITC of 8 mm dia solid Aluminium Conductor for roof top mesh grid and tested as per IEC 62561- 2 conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/IEC 62305 with Required Accessories - Aluminium Holding clamp at every 1 mtr distance, Aluminium/SS cross splicer at every crossing of Alu. conductor, Expansion piece with connectors at every 20 mtr distance, Aluminium straight Splicer to connect conductors. All Accessories should be tested as per IEC 62561-1 2018 Cl. 6.3 for conditioning & Ageing Test & 6.4 for Lightning impulse current withstand test: 100 kA of 10/350µs waveform(Ageing & Electrical test) conducted in a sequence manner & tested in the Govt. accredited Third party laboratory to meet the requirements of IS/IEC 6230	Mtr	280.00	17.00	297.00
10-5-3	SITC of 10 mm MS Round Solid Conductor having smooth surface Should be tested and use exclusively for lightning protection (Vertical Riser/Down Conductor which shall be concealed in Column OR Flushed on) to meet the requirement of IS IEC 62305 With Accessories - Earthing stud of dimension SS-75mm OD plate with 10mm dia tail connector used in structural steel ring earthing system to meet the requirements of IS/IEC 62305. (For Interconnecting the Column and the Terrace AL Conductor / Strip/Flat), SS Cross Connector to connect Earth fixing point to vertical raiser/Down conductor, SS Straight Splicer at every 4 Mtr to connect MS conductor in column, Bonding /Rebar Clamp at every 3 mtr suitable for interconnecting round conductor with reinforcement inside the concrete for structural earthing system, SS connector -To connect external conductor 8- 10 mm with earth fixing point. All Accessories should be tested as per IEC 62561-1 2018 Cl. 6.3 for conditioning & Ageing Test & 6.4 for Lightning impulse current withstand test: 100 kA of 10/350µs waveform(Ageing & Electrical test)	Mtr	704.00	17.00	721.00
	conducted in a sequence manner & tested in the Govt. accredited Third party laboratory to meet the requirements of IS/IEC 6230				
10-5-4	SITC of Galvanized Steel Flat 25x6 mm thickness from earth electrode directly in ground as required. Zinc coating: 500 g/m square (Approx:70 micron coating) tested and used exclusively for lightning protection earthing system and ring equipotential bonding.	Mtr	136.00	17.00	153.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
10-5-5	SITC of 14.2 mm dia 3 mtr long Earth electrode of High tensile steel electrode with 250 micron copper bonding & 1 bag of Carbon fill Based environment friendly backfill tested as per IEC 62561-7 in NABL accredited Laboratory and suitable stainless Steel double sided clamp. Eco Friendly rust proof heavy duty weather proof Polyethylene Earth Pit Chamber with following dimensions :254 mm dia (top), 330 mm dia (bottom) & 260 mm (height).	Per Set	5509.00	424.00	5933.00
	ENERGY AUDIT & SAFETY AUDIT				
10-5-6	Carrying out energy audit by BEE energy accredited energy auditor/firm for the entire electrical /mechanical system/equipment /installation consuming energy by measurement of various parameters to measure present energy consumption and providing energy auditor detail report with necessary suggestions for improvement with safety report with payback period per kva of contract demand.	per kva		636.00	636.00

CHAPTER-XI TEMPORARY ILLUMINATION,A/C,PUBLIC ADDRESS AUDIO/ VIDEO & STANDBY POWER SYSTEM					
(Rates included GST/Service Tax)					
NOTES					
1	The rates for temporary D.G,sound ,E.I. ,A.C. , LED, TV, Multi media are applicable for 1st day including preparatory & testing period & no additional amount shall be paid for that but for rehearsal if ask by authority, additional amount shall be paid 25% of first day rental charges.				
2	(i) For the second day of function , 40% of first day rent shall be considered. (ii) For each additional day after Second day of function but not exceeding 15 days, 15% of first day rental cost will be considered.				
3	After 15 days 5% of 1st day rental cost will be limited do 80% of full rate of newly purchased equipments .For more than above days,it is necessary to have consent letter of administrative authority.				
4	Testing of all temporary arrangement will be positively given before 12 hours start of function or rehearsal (if ask by concerned Authority) .				
5	For D.G. set, rental rates are applicable for first day. (1)For next subsequently 7 days ,90% of first day rental charges will be applied (2)from 8th day ,80% of the 1st day rental charges shall be applied and no additional amount will be paid for preparation & testing periods except rehearsal if required.				
6	The above rates are for the function with on load working of DG set up to 5 hours per day and if the DG set is to be used continuously on load mote 5 hours per day then for each 5 KVA of DG set add Rs 60.00 per hour operation to be paid extra.				
7	Necessary certificate from electrical inspector will be taken by concern Agency before 4 hours starting from function / rehearsal positively .				
8	The rate for DG Set included transportation charges for up to 30 kms from Concern Division H.Q. to function place and back. Add Rs . 500/- for additional 30 kms. Block.				
9	The items which are not included in SOR the higher charges should be derived as 10% of total cost of item for 1 st day.				
10	All switchgears,cables,wires, fittings & Lamps with accessories etc must be ISI MARKED Positively.				
11	Rates is inclusive of material, labour, supervision, liaison, transportation - overheads and All taxes including GSTexcept 1% labour cess.				
Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-1-1	Hire charges for providing erecting temp LED light 10 mm bulbs approved high glow with complete wiring with auto changer reverse and after good use dismantling.				
	(A) Strip Light. (Minimum 38 Lamps / Mtr.)	1st Day /RMT	0.00	18.00	18.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(B) Series Light. (Minimum 5 Lamps / Mtr.)	1st Day /RMT	0.00	3.00	3.00
	(C) Rope Light. (Minimum 15 Lamps. / Mtr.)	1st Day /RMT	0.00	6.00	6.00
	(D) Decorative LED design light on board	1st Day /lamp	0.00	1.00	1.00
	(E) Decorative LED palm piece	1st Day /piece	0.00	212.00	212.00
11-1-2	Hire charges for providing erecting and dismantling temporary illumination, consisting of strip lights complete with holders, bulbs up to 40Watt lamp of different colours complete with necessary lead wires erected and dismantled.	1st Day / No	0.00	3.00	3.00
11-1-3	Hire charges for providing erecting and dismantling temporary illumination consisting of the LED tube lights 22 watt minimum complete with lead wires	1st Day / No	0.00	17.00	17.00
11-1-4	For use of decorative tube in place of simple tube	1st Day	0.00	12.00	12.00
11-1-5	Hire charges for providing erecting and dismantling temporary illumination consisting of flood light fitting up to 100 Watt complete with holders lead wires, incandescent lamp with different colours with indoor / outdoor type	1st Day /Nos	0.00	15.00	15.00
11-1-6	Hire charges for providing erecting and dismantling temporary illumination consisting of halogen fitting 500 Watt / 85 watt retrofit CFL lamp/60watt LED lamp with suitable size Al. reflector complete with holders tube and lead wires. (outdoor Type)	1st Day /Nos	0.00	51.00	51.00
11-1-7	Hire charges for providing erecting and dismantling temporary illumination consisting of halogen fitting 1000 Watt complete with holders tube and lead wires. (Outdoor Type)	1st Day /Nos	0.00	68.00	68.00
11-1-8	Hire Charges for heavy duty flood light luminaire comprises die cast aluminium body with heat resistant toughened front glass, silicon rubber gasket, electromechanically brightened anodised aluminium reflector , hot deep galvanized M.S. cradle clamp with suitable size of necessary control gear box having choke, capacitor, holder, lamp etc. complete.				
	(A) Suitable for One No. 70 watt HPSV / Metal helide lamp	1 St.Day./ no	0.00	164.00	164.00
	(B) Suitable for One No. 150 watt HPSV / Metal helide lamp	1 St.Day./ no	0.00	229.00	229.00
	(C) Suitable for One No. 250 watt HPSV / Metal helide lamp	1 St.Day./ no	0.00	255.00	255.00
	(D) Suitable for One No. 400 watt HPSV / Metal helide lamp	1 St.Day./ no	0.00	410.00	410.00
11-1-9	Hire charges for providing erecting and dismantling after use of good running condition for the HPSV street light fitting with necessary accessories and lamps with fixing arrangement as per direction of engineer incharge				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(A) suitable for 70 watt	1 St.Day./ no	0.00	98.00	98.00
	(B) suitable for 150 watt	1 St.Day./ no	0.00	117.00	117.00
	(C) suitable for 250 watt	1 St.Day./ no	0.00	148.00	148.00
	(D) suitable for 400 watt	1 St.Day./ no	0.00	228.00	228.00
11-1-10	Hire charges for Providing and fixing chaser to give running erected to strip light and min up to load of 5 KW	1 St.Day./ no	0.00	150.00	150.00
11-1-11	Hire charges for providing, erecting and dismantling after use in good running condition for temp. arrangement of city colour HMI light with necessary KW capacity Lamps with its control panel and wiring and operating complete.				
	(A) 2 / 2.50 Kw.	1 St.Day./ no	0.00	8857.00	8857.00
	(B) 4.0 Kw.	1 St.Day./ no	0.00	14450.00	14450.00
11-1-12	Hire charges for providing, erecting as per direction of Engineer in charge and dismantling after use in good running condition with providing temp illumination by CYBER / SCANNER lights of 1200 watt rotating mechanism controlled by microprocessor base pre programmed controllers with suitable data control. and power cables and connections.	1 St.Day./ no	0.00	6992.00	6992.00
11-1-13	Hire charges for providing, erecting & dismantling Sharpy Moving Head light 200-440 w 20R(Beam,Spot,Wash)3-in-1 hybrid with necessary wiring & controller as required and as per instruction of engineer-incharge	1 St.Day./ no	0.00	6357.00	6357.00
11-1-14	Hire charges for providing & dismantling temp. three light consisting Neon / LED Light with electronically controlled effects(Par light) complete erected with necessary supports with connection & necessary controller .				
	(A) 50 to 150 Watt	1st. Day Per No.	0.00	1017.00	1017.00
	(B) above 150 Watt	1st. Day Per No.	0.00	1526.00	1526.00
11-1-15	Hire charges for providing erecting and dismantling after use of good running condition 1200 mm / 1400 mm size ceiling fan with down rod and clamp complete				
	(A) For Erection In Bamboo / Metal Type Mandap	1st Day /Nos	0.00	85.00	85.00
	(B) For Erection In Structure Dome	1st Day /Nos	0.00	170.00	170.00
11-1-15 (c)	Hire charges for providing electing and dismentling after use of good running condition of 1200mm /1400 mm size ceilling fan with down rod of 8ft to 20ft height with necessary wiring for germon Structure dome complete with check nuts, fan down road clamp with covered PVC insulation .	1st Day /Nos	0.00	410.00	410.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
'11-1-16	Higher charges for providing erecting and Removing after use of good running condition 300 mm/ 400 mm size low noise oscillation type pedestal fan of good condition.	1st Day /Nos	0.00	244.00	244.00
'11-1-17	Hire charges for providing, & erecting and dismantling after use of good running condition 600mm/900mm heavy duty air-circulator pedestal type fan of good running condition.	1st Day /Nos	0.00	212.00	212.00
'11-1-18	Hire charges for providing erecting and dismantling after use of good running condition Desert Cooler complete with necessary water filling arrangements with stand & 3 core wire with top etc..	1st Day /Nos	0.00	424.00	424.00
11-1-19	Hire charges for providing for temporary plug point with 5/15Amp plug switch combined, erected in wooden board complete	1st Day /Nos	0.00	22.00	22.00
11-1-20	Hire charges for providing erecting and dismantling after use in good running condition with necessary interconnecting wire/cable on panel board.				
	(A) D.P. Switch 16A/32A, 230V	1st Day /Nos	0.00	27.00	27.00
	(B) T.P. Switch with neutral 16A/32A 440V	1st Day /Nos	0.00	34.00	34.00
	(C) T.P. Switch with neutral 63A/200A 440V	1st Day /Nos	0.00	68.00	68.00
	(D) TPN Switch 200A/250A, 400V	1st Day /Nos	0.00	212.00	212.00
	(E) BUSBAR (i) 63 Amp to 100 Amp. Up to 1 Mtr.	1st Day /Nos	0.00	102.00	102.00
	(F) BUSBAR (i) 63 Amp to 100 Amp. Above 1 Mtr.	1st Day /Nos	0.00	128.00	128.00
	(G) BUSBAR (ii) 200 Amp. Up to 1 Mtr.	1st Day /Nos	0.00	177.00	177.00
	(H) BUSBAR (ii) 200 Amp. Above 1 Mtr.	1st Day /Nos	0.00	208.00	208.00
	(I) Change Over Switches 4 Pole 440 V (i) 16 A - 32 A	1st Day /Nos	0.00	51.00	51.00
	(J) Change Over Switches 4 Pole 440 V (ii) 63 A	1st Day /Nos	0.00	145.00	145.00
	(K) Change Over Switches 4 Pole 440 V (iii) 100A - 125A	1st Day /Nos	0.00	238.00	238.00
	(L) Change Over Switches 4 Pole 440 V (iv) 200A - 300A	1st Day /Nos	0.00	382.00	382.00
	(M) Change Over Switches 4 Pole 440 V (v) 400 A	1st Day /Nos	0.00	670.00	670.00
	(N) Change Over Switches 4 Pole 440 V (vi) 630A	1st Day /Nos	0.00	1043.00	1043.00
	(O) Change Over Switches 4 Pole 440 V (vii) 800A	1st Day /Nos	0.00	1306.00	1306.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(P) Distribution Boards 3 phase 440V 6A/32A (i) 4 - 6 Way	1st Day /Nos	0.00	77.00	77.00
	(Q) Distribution Boards 3 phase 440V 6A/32A (ii) 8-12 Way	1st Day /Nos	0.00	136.00	136.00
	(R) MCB Distribution boards Three phase 230V, (i) 4 -6 -8 Way	1st Day /Nos	0.00	246.00	246.00
11-1-21	Hire charges for providing erecting and dismantling after use in good running condition. Section pillar fabricated from 16 SWG thick M.S. Sheet with 40 x 40 x 6 mm thick angle iron legs with 12 mm thick bakelite / wooden sheet erected complete with following sizes (b) Section pillar having size 75 x 60 x 45	1st Day /Nos	0.00	255.00	255.00
11-1-22	Hire charges for providing erecting and dismantling after use in good running condition. Section pillar fabricated from 16 SWG thick M.S. Sheet with 40 x 40 x 6 mm thick angle iron legs with 12 mm thick bakelite / wooden sheet erected complete with following sizes (c) Section pillar having size 60 x 30 x 45	1st Day /Nos	0.00	145.00	145.00
11-1-23	Hire charges for providing & dismantling pipe type earthing for temporary electrical installation having G.I. pipe, erected in earth pit with necessary salt & charcoal & necessary earth wire.	1st day	0.00	98.00	98.00
11-1-24	Hire charges for providing, erecting & dismantling after use of good running condition for PVC copper /Aluminium wire mains with suitable copper PVC 1.5 / 2.5 Sq.mm earth wire of following size				
	(A) 2 wire 1 /1.5 / 2.5 Sq.mm Copper	1st. Day /RMT.	0.00	3.00	3.00
	(B) 2 wire 1 /1.5 / 2.5 Sq.mm Aluminium	1st. Day /RMT.	0.00	1.00	1.00
	(C) 2 wire 4 /6 Sq.mm Copper	1st. Day /RMT.	0.00	4.00	4.00
	(D) 2 wire 4 /6 Sq.mm Aluminium	1st. Day /RMT.	0.00	1.00	1.00
	(E) 4 wire 4 Sq.mm Copper	1st. Day /RMT.	0.00	7.00	7.00
	(F) 4 wire 4 Sq.mm Aluminium	1st. Day /RMT.	0.00	2.00	2.00
	(G) 4 wire 6 Sq.mm Copper	1st. Day /RMT.	0.00	10.00	10.00
	(H) 4 wire 6 Sq.mm Aluminium	1st. Day /RMT.	0.00	3.00	3.00
	(I) 4 wire 10 Sq.mm Copper	1st. Day /RMT.	0.00	11.00	11.00
	(J) 4 wire 10 Sq.mm Aluminium	1st. Day /RMT.	0.00	4.00	4.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-1-25	Hire charges for providing erecting as per direction of Engineer in charge dismantling after use of good running condition for temporary power supply the XLPE insulated armoured cable Aluminium conductor of following size.				
	(A) 2 Core 10 Sq.mm	1st. Day /RMT.	0.00	11.00	11.00
	(B) 4 Core 4 / 6 / 10 Sq.mm	1st. Day /RMT.	0.00	14.00	14.00
	(C) 4 Core 16 / 25 Sq.mm	1st. Day /RMT.	0.00	16.00	16.00
	(D) 3 1/2 Core 35 Sq.mm	1st. Day /RMT.	0.00	19.00	19.00
	(E) 3 1/2 Core 50 / 70 Sq.mm	1st. Day /RMT.	0.00	26.00	26.00
	(F) 3 1/2 Core 95 / 120 Sq.mm	1st. Day /RMT.	0.00	39.00	39.00
	(G) 3 1/2 Core 150 / 185 Sq.mm	1st. Day /RMT.	0.00	52.00	52.00
11-1-26	Hire charges for providing, erecting as per direction of Engineer-in-charge, dismantling after use of good running condition for temporary power supply, the XLPE insulated armoured. cable multistrand Copper conductor of following size				
	(A) 3 1/2 Core 35 Sq.mm	1st Day /Mtr.	0.00	43.00	43.00
	(B) 3 1/2 Core 50 Sq.mm	1st Day /Mtr.	0.00	64.00	64.00
	(C) 4 Core 16 Sq.mm	1st Day /Mtr.	0.00	80.00	80.00
	(D) 4 Core 25 Sq.mm	1st Day /Mtr.	0.00	38.00	38.00
11-1-27	Hire charges for providing, erecting with necessary connection and dismantling after user of good running ELCBs/RCCBs conforming to IS 12640 and having sensitivity of 30 Ma and Short circuit withstand capacity of 6 KA and suitable for operation on single phase 240 V having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component for following Max rating				
	(A) 40 Amps D.P [Cat.II]	1st Day /Nos.	0.00	119.00	119.00
	(B) 63 Amps D.P [Cat.II]	1st Day /Nos.	0.00	149.00	149.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-1-28	Hire charges for providing, erecting with necessary connection and dismantling after user of good running ELCBs/RCCBs conforming to IS 12640 and having sensitivity of 30 ma and short circuit withstand capacity of 6 KA and Suitable for operation on 3 Phase and neutral 415V having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component for following Max rating				
	(A) 40 Amps FP [Cat.II]	1st Day /Nos.	0.00	136.00	136.00
	(B) 63 Amps FP [Cat.II]	1st Day /Nos.	0.00	162.00	162.00
	(C) 100 Amps FP (100m A Sensitivity) [Cat.II]	1st Day /Nos.	0.00	208.00	208.00
11-1-29	Hire charges for providing, erecting with necessary connection and dismantling after user of good running Approved make Four Pole LT Heavy Duty Switch Disconnecter Fuse Unit Cubical type for panel mounting complete with operating mechanism suitable to operate on 415 V AC 23A duty with HRC fuses of suitable load confirming to I.S 13947 (Part I & III) of following capacities.				
	(A) 32 Amp [Cat.II]	1st Day /Nos.	0.00	106.00	106.00
	(B) 63 Amp [Cat.II]	1st Day /Nos.	0.00	136.00	136.00
	(C) 125 Amp [Cat.II]	1st Day /Nos.	0.00	212.00	212.00
	(D) 200 Amp [Cat.II]	1st Day /Nos.	0.00	297.00	297.00
	(E) 250 Amp [Cat.II]	1st Day /Nos.	0.00	382.00	382.00
	(F) 315 / 320 Amp [Cat.II]	1st Day /Nos.	0.00	424.00	424.00
	(G) 400 Amp [Cat.II]	1st Day /Nos.	0.00	551.00	551.00
	(H) 630 Amp [Cat.II]	1st Day /Nos.	0.00	840.00	840.00
	(I) 800 Amp [Cat.II]	1st Day /Nos.	0.00	975.00	975.00
11-1-30	Hire charges for providing, erecting with necessary connection and dismantling after user of good running Supplying & erecting approved make Four Pole 415V change over switch interior for panel mounting with operating mechanism A.C. 23 duty confirming to I. S.S. for				
	(A) 32 - 40 A [Cat.II]	1st Day /Nos.	0.00	111.00	111.00
	(B) 63 A [Cat.II]	1st Day /Nos.	0.00	153.00	153.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(C) 100 - 125 A [Cat.II]	1st Day /Nos.	0.00	255.00	255.00
	(D) 200 A [Cat.II]	1st Day /Nos.	0.00	339.00	339.00
	(E) 315 / 320 A [Cat.II]	1st Day /Nos.	0.00	509.00	509.00
	(F) 400 A [Cat.II]	1st Day /Nos.	0.00	636.00	636.00
	(G) 630 A [Cat.II]	1st Day /Nos.	0.00	933.00	933.00
	(H) 1000 A [Cat.II]	1st Day /Nos.	0.00	1060.00	1060.00
11-01-31.	Hire charges for Providing & erecting weather proof, dust & vermin proof / floor mounted Front operated outdoor type cubical Panel board having IP 64 protection made from 14 SWG thick CRC MS sheet for outer body and doors, 16 SWG thick CRC MS Sheet for internal partition with neccessary supporting angles, flats including cutting.bending , drilling, welding revetting, with internal Partition and cable alley as per requirement & instruction of Engineer in charge with SUPPLY AND ERECTION OF of following type switchgears /busbars with suitable size of inter connecting PVC copper wire/ copper strips,rubber grommets,rib,earth bus and earth bolt, foundation flange- bolts - base plates, sufficient Nos. of Hinged doors, handles with locking arrangement &rubber gasket complete .The panel shall be painted with epoxy powder coating and have Cu. Busbar strips . Each bus bar should insulated by color coded sleeve. WITH PHASE INDICATING Lamps--- Digital Multi function meter - Voltage, Amperes & Frequency only) with CTs coils) Each panel will contain earth bus and earth bolts with danger notice board.				
	[A] Cubical panel with main interior 400 A 4 pole on load Changeover switch and 400 A SFU/MCCB with four nos of 40 A DP MCB and four nos of 40 A FP MCB as standard outgoing. Other outgoing is to be incorporated as demanded by engineer in charge and rate for the same is to be taken extra in addition to this.	1st Day /Nos.	0.00	18645.00	18645.00
	[B] Cubical panel with main interior 250 A 4 pole on load Changeover switch and 250A SFU/MCCB with four nos of 40 A DP MCB and four nos of 40 A FP MCB as standard outgoing. Other outgoing is to be incorporated as demanded by engineer in charge and rate for the same is to be taken extra in addition to this.(Refer item no 11-1-26 & 11-1-27)	1st Day /Nos.	0.00	10170.00	10170.00
	[C] Power Distribution Cubical Panel with main incomer 125A also with change over switch of 125A TPN MCCB - 1 Nos., 200 A Alum. Busbar, Outgoing 16A SP MCB 10 KA - 6 Nos, [Panel size 800mm H x 600 mm W x 350 mm D]	1st Day /Nos.	0.00	6780.00	6780.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-1-32.	63/100 A Four Pole Moulded Case Circuit Breaker with spreader terminal and indication lamp mounted on cubical panel with complete proper termination .	1st Day /Nos.	0.00	751.00	751.00
11-1-33.	200 A Four Pole Moulded Case Circuit Breaker with spreader terminal and indication lamp mounted on cubical panel with complete proper termination .	1st Day /Nos.	0.00	1625.00	1625.00
Temp. Air Conditioning Machine					
11-1-34	Hire charges for providing erecting and dismantling after use of good running condition Air Conditioning ductable type AC Machine complete with erection, gas charging etc having capacity up to 8.5 Ton	1st day / Per Ton	0.00	1950.00	1950.00
11-1-35	Hire charges for providing , erecting and dismantling after use of good running condition 14" flexible 600 GSM,SRF duct for ductable types ac machine one as per instruction of engineer in charge.	1st day / Per Rn.Mtr	0.00	276.00	276.00
11-1-36	Hire charges for providing, erecting and dismantling after use 1.0 / 1.5 ton window type Air-conditioning machine complete with temporary frame and fabrication work & required materials to achieve cooling temp.	1st day / No.	0.00	691.00	691.00
11-1-37	Hire charges for providing erecting and dismantling after use of good running condition temporary wooden frame made of teakwood for proper support of provide window AC unit blocking the side openings around the unit by hard wood / plywood & placing the provided unit in approved manner complete.	1st day	0.00	585.00	585.00
11-1-38	Hire charges for providing, erecting and dismantling after use portable type Air-conditioning machine complete with erection ,gas charging and required flexible duct & required drain system etc. for 0.75 /1.0 Ton per one day as per instruction of engineer in charge.	1st day / No.	0.00	1611.00	1611.00
11-1-39	Hire charges for providing erecting and dismantling after use of good running Tower type /Split type Air-Conditioning machine complete with erection gas charging etc. (a) 1.5-2 ton for one day as per instruction of engineer.	1st day / No.	0.00	2967.00	2967.00
11-1-40	Hire charges for providing erecting and dismantling after use of good running condition Tower type/ split type Air-conditioning machine complete with erection, gas charging etc. (b) 3/4/5 Ton for one day as per instruction of engineer.	1st day / No.	0.00	5933.00	5933.00
11-1-41	Hire Charges for providing 90 Ltr capacity refrigerator complete with M.S. stand if necessary connected with main switchgear & connecting earthing.	1st day / No.	0.00	797.00	797.00
11-1-42	Hire Charges for providing 165 Ltr capacity refrigerator complete with M.S. stand if necessary connected with main switchgear & connecting earthing.	1st day / No.	0.00	1009.00	1009.00
11-1-43	Hire Charges for providing 250 / 280 Ltr capacity refrigerator complete with M.S. stand if necessary connected with main switchgear & connecting earthing.	1st day / No.	0.00	1166.00	1166.00
11-1-44	Hire charges for providing 150 Ltr. Capacity water cooler with candle type water filter & M.S. Stand with minor plumbing work, connected with main switchgear and connecting earthing.	1st day / No.	0.00	933.00	933.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-1-45.	Hire charges for Supplying and erecting 19 / 20 mm. nominal bore Medium Class M.S. Pipe down rod erected with fan clamp/hook duly painted for fan complete with necessary 24/ O.20, 3 core flexible wire with earthing and installed in proper way to ensure vibration free movement..	Ea.	0.00	43.00	43.00
11-1-45-A	For Germon Dom	Ea.	0.00	85.00	85.00
11-1-46.	Hire charges for Supplying and erecting ISI mark Medium class RIGID PVC /Flexible Pipes erected on/in wall or ceiling erected with necessary fittings & boxes fixed with adhesive solution & Clamps in approved manner as directed	Rn Mtr	0.00	3.00	3.00
11-1-47.	Hire Charges for Providing,erecting &,commissioning & dismantling AHU(Air Handling Unit) for circulating air as part of air conditioning system upto 34 ton i.e four units of 8.5 ton.	1st day / No.	0.00	12713.00	12713.00
11-1-48.	Hire charges for LED Flood Light Fittings with High Power White LEDs wattage of 1 Watt and above assemble on single MCPCB, efficiency more than 130 lm/w and corrosion free high pressure die cast aluminium housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/lenses with company mark/name engraved or embossed 120 to 300 V, Power factor more than 0.95, THD<10%, CCT 5000 K to 5700K, Uniformity ratio >0.45, Luminaire efficiency > 85 Lumens/Watt, LED driver efficiency >85%. CREE/OSRAM/PHILLIPS Lumileds /NICHIA/SEOUL/BridgeLux(U.S.A) make LED used for luminaire. (Each fitting required LM-79 & LM-80 Certificates) (B) Flood Light (IP-65), Surge -4KV (e) Above 150 watts to 240 watts Cat-III	1st day / No.	0.00	985.00	985.00
	(A) Above 100watts to 120 watts Cat-III	1st day / No.	0.00	662.00	662.00
	(B) Above 70 watts to 90 watts Cat-III	1st day / No.	0.00	556.00	556.00
11-1-49.	Hire charges for providing & dismantling earth pit of minimum bore dia.150mm size approved make Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free G.I.Pipes having Outer pipe dia of 50mm having 80-200 Micron galvanizing, Inner pipe dia of 25 mm having 200-250 Micron galvanizing, connection terminal dia of 12mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications(a) For Electrical Installation up to 440V in normal soil Length of pipe - 1 Mtr Back filling compound - 1 Nos Bag of 15 Kg.	1st day / No.	0.00	636.00	636.00
11-1-50.	Hire charges for providing erecting and dismantling after use of good running condition Industrial Air Cooler With Water filling erected as per instruction of engineer-in -charge	1st day / No.	0.00	1907.00	1907.00
Chapter 11.2 / Diesel Generator Set					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-2-1	Hire charges for 240V A.C generating set following capacity with necessary fuel, mains, switchgears & accessories complete running on load / no load as per requirement. With transportation charges up to 30 kms..				
	[A] 1 KVA to 2 KVA	1 St.Day./ no	0.00	924.00	924.00
	[B] 3 KVA to 10KVA	1 St.Day./ no	0.00	3984.00	3984.00
11-2-2	Hire charges for 440V A.C generating set following capacity with necessary fuel, mains, switchgears & accessories complete running on load / no load with acoustic sound proof enclosure etc as per requirement. With transportation charges up to 30 kms.				
	[A] 3 KVA to 10KVA	1 St.Day./ no	0.00	3984.00	3984.00
	[B] 11 KVA to 25 KVA (excluding 25 KVA)	1 St.Day./ no	0.00	4365.00	4365.00
	[C] 25 KVA to 40 KVA	1 St.Day./ no	0.00	6357.00	6357.00
	[D] 50/62.5 KVA	1 St.Day./ no	0.00	7628.00	7628.00
	[E] 75 KVA to 100 KVA	1 St.Day./ no	0.00	15255.00	15255.00
	[F] 125 KVA	1 St.Day./ no	0.00	20340.00	20340.00
	[G] 250 KVA	1 St.Day./ no	0.00	32205.00	32205.00
11-2-3	Hire charges for providing, erecting, and dismantling after use Flexible PVC insulated multistrand multi core 1.1 kv grade ISI marked copper wires for sound system of following size.				
	(A).2 5 Sq.mm 3 core round I PVC sheathed	Mtr	0.00	23.00	23.00
	(B).4.0 Sq mm 3 core round PVC sheathed	Mtr	0.00	35.00	35.00
Temp. LED Screen & Videography					
11-3-1.	Hire charges for Providing ,Erecting and dismantling,after use of good running for Outdoor LED screen with necessary suitable structure,back support, wiring, Optical fibre Receiver and accessories with standby arrangement from LED panel to console & necessary MCB, ELCB & earthing etc. LED screen having a P4.8 or latest updated module & having a each block of uniform size as suitable for site requirement with minimum refresh rate of 3000MHZ and IP65 protection and brightness >= 5000 Cd/m2 as per requirement on site as per direction of engineer in charge.	1 St.Day. /sq.ft	0.00	428.00	428.00
	(A) With truss Structure	1 St.Day. /sq.ft	0.00	530.00	530.00
	(B) with metal/wooden structure	1 St.Day. /sq.ft	0.00	467.00	467.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-3-2.	Hire charges for Providing ,Erecting and dismantling,after use of good running for Indoor LED screen with necessary suitable structure,back support, wiring, Optical fibre Receiver and accessories with standby arrangement from LED panel to console & necessary MCB, ELCB & earthing etc. LED screen having a P4.8 or latest updated module & having a each block of uniform size as suitable for site requirement with minimum refresh rate of 1920MHZ,and IP54 protection,as per requirement on site as per direction of engineer in charge.	1 St.Day./sq.ft	0.00	386.00	386.00
	(A) With truss Structure	1 St.Day./sq.ft	0.00	488.00	488.00
	(B) with metal/wooden structure	1 St.Day./sq.ft	0.00	424.00	424.00
11-3-3.	Hire charges for Providing ,Erecting and dismantling,after use of good running for DTH system having enough size disc for receiving digital signal and set up box as required for programme complete with good quality interconnecting wires and necessary top up recharge(Tata Sky, Airtel, Dish TV, etc...)	1 St.Day.	0.00	848.00	848.00
11-3-4.	Hire charges for Providing ,Erecting and dismantling,after use of good running for jimmy jib motorized crane of length as per site requirement with necessary mechanical safety and competent operating person with HD SONY or equivalent make camera as per direction of engineer in charge	1 St.Day/Job.	0.00	17120.00	17120.00
11-3-5.	Hire charges for watch out software with multiple layered playback system having a latest licensed software version and media servers with multiple outputs and accessories with backup servers.	1 St.Day/job.	0.00	127125.00	127125.00
11-3-6.	Hire charges for laying armoured optical fiber cable as per direction of engineer incharge	1 St.Day/mtr.	0.00	22.00	22.00
11-3-7.	Hire charges with WiFi unit wireless IP HD camera as per direction of engineer in charge.	1 St.Day/job.	0.00	16950.00	16950.00
11-3-8.	Hire charges for OB van With necessary wired and wireless IP base HD camera with necessary lenses. OB Van having required capacity of diesel generator, mixers, monitors,with suitable converters and processors with satellite connectivity.	1 St.Day/job.	0.00	148313.00	148313.00
11-3-9.	Charges for Making digital "takhti" with necessary music, graphics, special effects, voice and editing as per instruction.	Per Job	0.00	20000.00	20000.00
11-3-10.	Hire charges for Providing ,Erecting and dismantling,after use of good running Condition for digital projector with spring loaded wire , wire screen connected with necessary mains switch gears & maintaining the same during function. (A) lum.4500lm or higher Digital input ,control input, memory input, audio input etc.	1 St.Day./no	0.00	4238.00	4238.00
11-3-11.	Hire charges for providing, erecting and dismantling after use of good running for HD Digital Video Recording (3CCD) approved make Cameras for receiving and general shoots with competent authorized person (each camera) as per direction of Engineer-in-charge)with all cabling as site requirement	1 St.Day./Job	0.00	12840.00	12840.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-3-12.	Hire charges for providing, erecting and dismantling after use of good running for HD Tele Camera (Panels Including Camera Heads (Ikegami) , Camera Control Units (Ikegami) , Remote Control panels (Ikegami) 7" View Finder (Ikegami) , Lens (canon HJ40) , Tripods (Studio Assist), Camera cable (peron) with All Cabling & Talkback upto Mixing Console & competent authorized person (each camera) as per direction of Engineer-in-charge as site requirement.	1 St.Day./ Job	0.00	115260.00	115260.00
11-3-13.	Hire charges for providing, erecting and dismantling after use of good running for live Digital Set up for mixing Console with required necessary out with UPS backup as per direction of Engineer - in - charge with all cabling as site requirement	1 St.Day. / Job	0.00	11442.00	11442.00
11-3-14.	Hire charges for providing, erecting and dismantling after use of good running for Live Black magic HD digital Set up for mixing Console with required necessary out with UPS backup as per direction of Engineer - in - charge with all cabling as site requirement	1 St.Day. / Job	0.00	42799.00	42799.00
11-3-15.	Hire charges for providing, erecting and dismantling after use of good running for High resolution on-line DVD making system and Digital Video recording set-up and providing DVDs as per Function requirement as per direction of Engineer - in -charge)	1 St.Day. / Job	0.00	2967.00	2967.00
11-3-16.	Hire charges for providing, erecting and dismantling after use of good running for HD ON LINE RECORDER and Digital Video recording set-up and providing DVDs as per Function requirement as per direction of Engineer - in -charge)	1 St.Day. / Job	0.00	8560.00	8560.00
11-3-17.	Hire charges for providing, erecting and dismantling after use of good running for 42"LED TV complete with necessary suitable cables as per requirement on site as per direction of Engineer - in - charge)	1 St.Day. / Job	0.00	5085.00	5085.00
11-3-18.	Hire charges for providing, erecting and dismantling after use of good running for 52"/55" LED TV complete with necessary suitable cables as per requirement on site as per direction of Engineer - in - charge)	1 St.Day. / Job	0.00	5933.00	5933.00
11-3-19.	Hire charges for providing, erecting dismantling after use of good running for Optical Fiber Converter 12G-SDI, which can send and receive SDI signals over long distance using fiber. It supports up to 4K Video, works in both directions at once, and is compatible with field gear. It has one optical Fiber port (Module sold separately), plus SDI input and Output.	1 St.Day. / Job	0.00	1000.00	1000.00
11-3-20.	Hire charges for providing, Erecting and dismantling, after use of good running for Sony or Panasonic 4K Cameras Resolution: 4K UHD (3840x2160), Sensor: 1-inch or larger CMOS, Recording Forams: MP4, MOV, AVCHD. Frame Rates: Upto 60fps in 4K, Image Stabilization: Optical or Hybrid, Autofocus: Fast, Face / Eye Tracing, Inputs: HDMI, Mic Input, Headphone Jack, Media: SD/SDHC/SDXC Cards Display: Flip-out touchscreen LCD Connectivity: Wi-Fi, USB.	1 St.Day. / Job	0.00	11000.00	11000.00
11-3-21.	Hire charges for laying armoured optical fiber cable on ground, including splicing and related works, as per the direction of the Engineer-in-charge.	1 St.Day. / Run.Mtr	0.00	52.00	52.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-3-22.	Hire charges for metal scaffolding structure to support LED Screen installation, calculated per sq.ft., including labor, transportation, erection, dismantling, and all necessary safety measures, as per site requirements and as directed by the Engineer-in-Charge.	1 St.Day. / Sq.Ft.	0.00	50.00	50.00
11-3-23.	Hire charges for 1000-liter water tank to be used as counterweight for mounting stability, including transportation, filling, installation, and dismantling after use, as per site requirements and as directed by the Engineer-in-charge.	1 St.Day. / Job	0.00	3500.00	3500.00
11-3-24.	Hire charges for providing, erecting and dismantling after use of good running for 1KVA offline UPS.	1 St.Day. / Job	0.00	2500.00	2500.00
11-3-25.	Hire charges for Cameraman (Skilled Professional) , Includes services of a trained professional for operating HD/4K video cameras, managing framing, focus, exposure, and capturing high-quality video footage for recordings, shoots, or live events as directed by the Engineer-in-Charge. Charges cover one full day (Per Day).	1 St.Day. / Job	0.00	11000.00	11000.00
11-3-26.	Hire charges for Asst. Cameraman (Skilled Professional) , Includes services of Assisting a trained professional for operating HD/4K video cameras, managing framing, focus, exposure, and capturing high-quality video footage for recordings, shoots, or live events, as directed by the Engineer-in-Charge. Charges cover one full day (Per Day).	1 St.Day. / Job	0.00	3000.00	3000.00
11-3-27.	Providing , installing and dismantling (after use) of a good working condition laptop with HDMI input-output functionality. The laptop will be suitable for media playback, presentations, or control applications requiring HDMI connectivity. Charges include delivery,setup,and technical verification.	1 St.Day. / Job	0.00	2500.00	2500.00
Temp. Stage light & Truss System					
11-4-1.	Hire charges for Providing erecting commissioning & Dismantling after use of temporary lighting as per instruction of Engineer in charge. The Stage Lighting consisting of Following with necessary stand by equipments in case of failure.				
	<u>Lighting Equipment.</u>				
	(a) 1000 Watts 240 Volts Par Lights 200 Nos. (b) 54x3W RGBW IP-67 (Cree or Osram Chip) LED Par Lights - 200 Nos. (c) Moving Head 20R (Beam, Spot, Wash) 3-in-1 Hybrid - 40 Nos. (d) Moving Head Sharpy (Beam) - 20 Nos. (e) LED Moving Head Wash - 24 Nos (f) Hazers - 8 Nos. (g) City colours 2500 Watts Lights - 8 Nos. (h) Follow Lights 2500 Watts - 4 Nos. (I) Control Dimmer - 8 Nos. (j) Sky Trackers - 4 Nos. (k) Fog Machine - 4 Nos. (l) Audience Blinder (4-eye) - 12 Nos.	1 St.Day./ no	0.00	1318202.00	1318202.00
11-4-2.	Hire charges for Providing trussing for stage lighting as per instruction of event manager or engineer in charge it consisting of following.				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	Front and back Truss Sections - Total 240(120+120) feet Left & Right side Truss Sections- Total 120(60+60) feet 6 nos . Ground supports Towers. 2 Nos . front to back triangular sections. 6 nos CM Load star motor chain hoist. With necessary shekels belts, safety pins locks as per requirements.	1 St.Day./ no	0.00	376629.00	376629.00
Temp Sound System					
11-5-1.	Hire charges for providing, erecting, Operating and dismantling the sound system consisting of following items duly cored with copper core (For one day) (a) 250W Audio Amplifier, 55A, 250W - 1 No. (b) High performance CD/DVD player and laptop- 1 No.(c) Horns with Units & matching transformer - 6 Nos.(d) 15" Speaker box two way 1000 watt - 4 Nos.(e) Microphone (shure/sennhieser) - 4Nos (f) Microphone Stand DGN - 4 Nos. (g) Cord wire with necessary cabling . (h) Voltage Stabilizer 3 KVA - 1 No. (i) 12V Battery - 1 No.(j) Cordless Microphone - 1 No. (K) Audio mixer 8/12/16 channel- 1 No. (L)Stage monitor- 2 Nos	1st Day/ Job	0.00	11654.00	11654.00
11-5-2.	Hire Charges providing, erecting, Operating and dismantling the sound system consisting of following items duly cored with core (For one days) 1. Power Amplifier QSC RM X 24500 - 8 Nos. 2. 250W Audio Amplifier SSA-250W - 6 nos. 3. 500W EM Booster SPA 5000 EM Booster - 2 nos.4. High performance CD/DVD player and laptop- 1 No.5. Horn with units and matching transformer 8.45+1100=1945 - 12 nos. 6. Cabinet Speaker with Hooper 5W x 650W - 20 nos.7. Microphone Shoes SM 58 - 16 nos. 8. Microphone Stand(a) DGT 10 X 525.00 = 5250 - 1 Nos. (b) DGN 6 X 855 = 5130 - 6 Nos. 9. Voltage Servo Stabilizer 4KVA & UPS - 3 nos.10. Battery - 2 nos11. Audio Mixer 24/32 Channel - 1 nos.12.DI Box-8 nos. Effect Processor -1 no.13. Cord less microphone - 1 nos.14. Button Mike - 1 nos.15.Crossover & equilizer-1 no16.Stage monitor- 2 Nos.17.necessary mic wire with cabling.	1st Day / Job	0.00	83903.00	83903.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-5-3.	Hire charges for providing, erecting, testing & commissioning public address system / cultural programme 2 pair 3 way sound system having proper distribution of sound through out the fixed area comprising of the following (For one day) (1) Mid Top (15" inch speaker & 2 inch HF) 1000 watt - 8 Nos. (2) Base speaker (18" inch speaker) 10000 watt - 8Nos. (3) Power amplifier (QSC RMX2450) - 8 Nos. (4) Stage Monitor (500 Watt) - 4 Nos.&Side Fills Monitor(1000w)-2nos (5) Effect processor - 1 No (6) Active Cross over - 1 No. (7) Hand cordless Microphone - 3 Nos. (8) Microphone (SM58) - 10 Nos. (9) Microphone (SM57) - 5 Nos. (10) Audio Link 32 channel - 1 No (11) Microphone Stand - 15 Nos. (12) 24 channel audio mixer - 1 No. (13) CD & DVD player with Recorder / Pen Driver & laptop- 1 No. (14) 5 KVA Voltage Stabilizer - 1 No. with suitable Battery backup.	1st Day/ Job	0.00	170229.00	170229.00
11-5-4.	Hire Charges for providing erecting operating and dismantling the sound system consisting of following items duly Cored with copper Core. (For One days) (a) One No Audio amplifier up to 250W suitable for reproduction of sound (b) One No. DVD Player as per demand (c) Two No. Horn / Speaker with necessary matching transformer if required (d) Three Nos high sensitive Microphones of good quality with stand and cord Core of good quality (e) One No voltage stabilizer (f) One No. 12/24 V Battery (as a stand by)	1st Day / Job	0.00	2543.00	2543.00
11-5-5.	Hire charges for providing, erecting, testing & commissioning public address system / cultural programme 4 pair 3 way sound system having proper distribution of sound through out the fixed area comprising of the following (For one day) (1) Mid Top (15" inch speaker & 2 inch HF) 1000 watt - 12 Nos. (2) Base speaker (18" inch speaker) 10000 watt - 12 Nos. (3) Power amplifier (QSC RMX2450) - 12 Nos. (4) Stage Monitor (500 Watt) - 4 Nos. (5) Side Monitors (1000 Watt) - 2 Nos. (6) Effect processor - 1 No (7) Active Cross over - 1 No. (8) Equilizer (31 Bnd.) - 1 No. (9) Hand cordless Microphone - 4 Nos. (10) Microphone (SM58) - 12 Nos. (11) Microphone (SM57) - 6 Nos. (12) Audio Link 32 channel - 1 No (13) Microphone Stand - 18 Nos. (14) 24 channel audio mixer - 1 No. (15) CD & DVD player with recorder / Pen Driver - 1 No. (16) Laptop - 1 No. (17) 5 KVA Voltage Stabilizer - 1 No.with suitable Battery backup.	1st Day / Job	0.00	285735.00	285735.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-5-6.	Hire charges for providing, erecting, testing & commissioning public address system 6 to 8 pair 3 way Flying sound system having proper distribution of sound through out the fixed area comprising of the following for 1.0 to 1.5 lakh sq.feet dome area. (For one day) (1) RCF HDL20 / JBL VRX - 2 WAY TOPS – 16 to 20 Nos. (2) RCF / JBL Dual 18 Inch Sub Woofers - 6 Nos (3) 32 Channel Digital Console Inbuilt Effect Processor - 31 Band Equalizer - High Performance Pre Amp (Midas M32 / Behringer X32 or Equivalent) - 1 Nos.Backup / Stand by console – 1no (Same or Equivalent Configuration Required) (5) Stage Monitors (800 Watt) - 4 Nos.(JBL VRX 915/ RCF V35/ JBL SRX 712 or Equivalent) (6) Side Fill Monitors (1000 Watt) - 2 Nos. (JBL / BNC/ RCF or Equivalent) - 2 Nos. (7) Active Cross Over - 1 Nos. (8) Microphones with Stand (Shure / Sennheiser or Equivalent) - 22 Nos. (9) DI Box (Behringer/ BSS/ Radial) - 8 Nos. (10) Cordless Microphones (Shure / Sennheiser or Equivalent) - 4 Nos. (11) Audio Link 32 Channel - 1 Nos. (12) High Performance CD/DVD Player /Laptop - 1 Nos.	1st Day/job	0.00	635625.00	635625.00
	(13) 3 KVA UPS - 1 Nos.(14) 1 KVA UPS – 2Nos. (15) 2 Way Speakers – 4to6 Nos for Stand By System.				
11-5-7.	Hire charges for providing, erecting, testing & commissioning public address system 6 to 8 pair 4 way/ 3 way Flying sound system having proper distribution of sound through out the fixed area comprising of the following for 1.5 to 2.5 lakh sq.feet dome area. (For one day) (1) EAW KF740 / JBL VTX V20/RCF HDL20 / JBL VRX – 3WAY/2 WAY TOPS – 24to 36 Nos. (2) RCF / JBL Dual 18 Inch Sub Woofers - 6 Nos. (3) 32/48 Channel Digital Console Inbuilt Effect Processor - 31 Band Equalizer - High Performance Pre Amp (Midas M32 / Behringer X32 or Equivalent) - 1 Nos.(4) Backup / Stand by console – 1no (Same or Equivalent Configuration Required) (5) Stage Monitors (800 Watt) - 4 Nos.(JBL VRX 915/ RCF V35/ JBL SRX 712 or Equivalent) (6) Side Fill Monitors (1000 Watt) - 2 Nos. (JBL / BNC/ RCF or Equivalent) - 2 Nos (7) Active Cross Over - 1 Nos.(8) Microphones with Stand (Shure / Sennheiser or Equivalent) - 22 Nos.(9) DI Box (Behringer/ BSS/ Radial) - 8 Nos.(10) Cordless Microphones (Shure / Sennheiser or quivalent) - 4 Nos.(11) Audio Link 32 Channel - 1 Nos.(12) High Performance CD/DVD Player /Laptop - 1 Nos.	1st day/job	0.00	1059375.00	1059375.00
	(13) 3 KVA UPS - 1 Nos. (14) 1 KVA UPS – 2Nos. (15) 2 Way Speakers – 4to6 Nos for Stand By System				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-5-8.	Hire charges for providing, erecting, testing & commissioning public address system 6 to 8 pair 4 way/ 3 way Flying sound system having proper distribution of sound through out the fixed area comprising of the following for 2.5 to 4.0 lakh sq.feet dome area.. (For one day) (1) EAW KF740 / JBL VTX V20/RCF HDL20 / JBL VRX – 3WAY/2 WAY TOPS – 36 to 50 Nos. (2) RCF / JBL Dual 18 Inch Sub Woofers - 6 Nos. (3) 32/48 Channel Digital Console Inbuilt Effect Processor - 31 Band Equalizer - High Performance Pre Amp (Midas M32 / Behringer X32 or equivalent) - 1 Nos.(4) Backup / Stand by console – 1no (Same or Equivalent Configuration Required) (5) Stage Monitors (800 Watt) - 4 Nos.(JBL VRX 915/ RCF V35/ JBL SRX 712 or Equivalent) (6) Side Fill Monitors (1000 Watt) - 2 Nos. (JBL / BNC/ RCF or Equivalent) - 2 Nos. (7) Active Cross Over - 1 Nos.(8) Microphones with Stand (Shure / Sennheiser or Equivalent) - 22 Nos. (9) DI Box (Behringer/ BSS/ Radial) - 8 Nos.	1st Day/job	0.00	1483125.00	1483125.00
	(10) Cordless Microphones (Shure / Sennheiser or Equivalent) - 4 Nos. (11) Audio Link 32 Channel - 1 Nos. (12) High Performance CD/DVD Player /Laptop - 1 Nos. (13) 3 KVA UPS - 1 Nos. (14) 1 KVA UPS – 2Nos. (15) 2 Way Speakers – 4to6 Nos for Stand By System				
11-5-9.	Additional Mid Top (15" inch Speaker&2" HF) 1000 watt	1 St.Day./ NO	0.00	4577.00	4577.00
11-5-10.	Additional Base speaker (18"Speaker) 1000 Watt	1 St.Day./ NO	0.00	2034.00	2034.00
11-5-11.	Additional Flying 2 Way Top (10 Inch Speakers and 2 HF)	1 St.Day./ NO	0.00	7628.00	7628.00
11-5-12.	Additional Flying 3 Way Top (10/12/15 Inch Speakers and 2 HF)	1 St.Day./ NO	0.00	10170.00	10170.00
11-5-13.	Additional Power Amplifiers (QSC RMX 2450)	1 St.Day./ NO	0.00	2746.00	2746.00
11-5-14.	Additional cordless microphone,	1 St.Day./ NO	0.00	814.00	814.00
11-5-15.	Additional collar / Button Mike	1 St.Day./ NO	0.00	509.00	509.00
11-5-16.	Additional Microphone	1 St.Day./ NO	0.00	204.00	204.00
11-5-17.	Additional Horn with units and matching transformer 8.45+1100=1945	1 St.Day./ NO	0.00	204.00	204.00
11-5-18.	Additional Cabinet Speaker with Hooper 5W x 650W	1 St.Day./ NO	0.00	204.00	204.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-5-19.	Hire charges for providing and erecting the Iron Scaffold tower of size 5' x 5'-0" x 25'-0" (High) with necessary supports and cross arms with necessary accessories as per requirement on site for erection of horns and halogen fittings as directed (For One Days)	1 St.Day./ Job	0.00	5085.00	5085.00
11-5-20.	Hire charges for Bamboos to be erected as directed up to length 5-0 mtr. (including Transportation)	1 St.Day./ Job	0.00	26.00	26.00
11-5-21.	Hire charges for providing, erecting approved make 3.5KVA Inverter cum UPS system with operating capacity for input 160-270 V AC & inverter having output 230V 50Hz AC with 4 NOS 160 AH suitable voltage SMF batteries FOR 4 HRS BACKUP..	1 St.Day./ NO	0.00	3687.00	3687.00
11-5-22.	Hire charges for providing, erecting, Operating and dismantling the sound system for State Level Cultural Mega Event. Main Stage Front House Sound system shall consist of Eight pairs of line array tops, accompanied by subs as prescribed by manufacturer. (1) The array tops shall consist of dual 15" / 12" Transducers of 1200 watts for low / low mid frequency, Four 8" transducers of 600 watts for reproduction of mids and two or three compression drivers couples to horns of 300 watts for reproduction of high frequency- L acoustics K2, Nexo STM, Das Aero 50, RCF-TT-55A, JBL Vertec-4889, EAW KF740 Only 90000 Watt Front of House 8 Pair (16 Nos.) (2) 2000 Watt with dual 18" Transducers for reproduction of Sub Woofers L Acoustics KS28, JBL 4880A, RCF 8006AS, EAW SB 1002/2001 Only. Front of House 6 Pair (12 Nos.)(3) Digital Mixing Console - Digi Design Venue SC48, Sound Craft VI-3000, DIGICO SD10, YAMAHA-CL5. (4) Stage Monitors (JBL VRX 915/ RCF V35/ JBL SRX 712 or Equivalent) 8 Nos. (5) Side Fill Monitors (JBL / BNC/ RCF or Equivalent) - 2 pair 3 way . (6) Cordless Microphones - 6 Nos.	1 St.Day/ job	0.00	1567875.00	1567875.00
	(7) Delay Stack shall consist of six pair Flying Line Array accompanied by prescribed no of Sub's Homogeneity in brands is compulsory Approx 50000 Watts. - 2 Nos.				
11-5-23.	Hire Charges for providing, erecting, operating and dismantalling the sound system consisting of following items duly covered with copper core [For One Days] 1. 250W Audio Amplifier 55A 250W - 3 Nos. 2. Horns with Units & matching transformer - 6 Nos. 3. 12" Speaker box two way VS 300 - 4 Nos. 4. Microphone SM 58 - 6 Nos. 5. Microphone stand DGN - 6 Nos. 6. Tape recorder / CD play with C.D. - 1 No. 7. Voltage Stabilizer 3KVA - 1 No. 8. Cordless Microphone - 1 No.	1stday/j ob	0.00	26697.00	26697.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-5-24.	Hire Charges for providing, erecting, operating and dismantling the sound system consisting of following items duly covered with copper core [For One Days] 1. Power Amplifier QSE RM x 24500 - 4 Nos. 2. 250W Audio Amplifier SSA - 250W - 2 Nos. 3. 500W EM Booster SPA 5000 EM Booster - 2 Nos. 4. Tape Recorder / CD Player with CD - 2 Nos. 5. Horn with units and matching Transformer 845 + 1100 = 1945 - 6 Nos. 6. Cabinet speaker with woofer 5W x 650W - 8 Nos. 7. Microphone shure SM 58 - 8 Nos. 8. Microphone Stand (a) DGT 10 x 525.00 = 5250 - 2 Nos. (b) DGN 6 x 855 = 5130 - 6 Nos. 9. Voltage Servo Stabilizer 4 KVA - 1 Nos. 10. Audio Mixer 16 Channel - 1 No. 11. Effect Processor - 1 No. 12. Cordless microphone - 1 No.	1st Day/job	0.00	48944.00	48944.00
11-5-25	Hire charges for providing, erecting, testing & commissioning, operating, and dismantling of Main Console System for public address system for PM / PRESIDENT / VVIP FUNCTION Digital Mixing Console, DIGI Design Venus SC-48 / DIGICO SD10, ALLEN & HEALTH D LIVE 7000, SOUND CRAFT VI 3000 , YAMAHA CL-5 - 2Nos.FOH & MOH Splitter(MIDAS 431/ARX/WORLWIND)-2 Nos for Stand by Console-1 Nos.Stage Monitors - 800 Watts -(JBL / VRX 915 / RCF V35 / JBL SRX 712 or Equi.) - 6 Nos. Side Files Monitors (100-200 Watts) - JBL /BNC / RCF OR Equi - 2 Nos.Mixer, Line out with Monitors (100-200 Watts) - JBL /BNC / RCF or Equi. - 2 Nos. for Green Room area dome Active Crossover - 2 Nos.Microphone with stand (SHURE / SENNIHEIZER OR Equi) - 22 NosPodium Microphones (SHURE / SENNIHEIZER / DPA) - 6 Nos.DI BOX (BEHRINGER / BSS / RADIAL) - 8 Nos.Cordless Microphones - (SHURE / SENNIHEIZER OR EQUIVELENT) - 04 Nos AUDIO LINK 32 CHANNEL - 1 NOS. High Performance CD/DVD player- 1 No., Laptop with AV in-output 1 No. for Recording and playing.	1st Day/job	0.00	275438.00	275438.00
	3 KVA UPS - 2 NOS. , & 1 KVA UPS - 3 NOS. 2 WAY Speakers for stand by system run on UPS - 4 Nos.Rates are for One day of Working and one day before testing (Not including Rehearsal)				
11-5-26	Hire charges for providing, erecting, testing & commissioning, operating, and dismantling of main PA System for public address system for PM / PRESIDENT / VVIP FunctionL ACOUSTIC / MEYER SOUND / D&B AUDIOTECHNICA / JBL / EAW - 3 WAY TOPS - Pair of Six Nos.and SUB WOOFERS - Pair of 3 Nos.Power Amplifier - 12Nos. for Above L ACOUSTIC/ JBL / EAW / D&b / RCF HDL 20 / 2 WAY 1000 WATT FOR CENTRE FILL - 4 Tops with necessary Amplifiers. All necessary truss, control power conditioner protection panels, signal wiring with enough spare wires/cables with safe guard protection. Rates are for One day of Working and one day before testing (Not including Rehearsal)	1st Day/job	0.00	423750.00	423750.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
11-5-27	Hire charges for providing, erecting, testing & commissioning, operating, and dismantling of PAIR OF DE:AY STACK for public address system for PM / PRESIDENT / VVIP FUNCTION RCF HDL 20 / JBL VRX / L ACOUSTIC / MEYER SOUND / D&B UDIOTECHNICA / JBL / EAW - 2 WAY OR 3 Way Tops - pair of 3/4 Nos. Power Amplifiers - 3 NOS NECESSARY AMPLIFIER POWER SUPPLY PANNEL - 1 NOS All necessary truss, control power conditioner protection panels, signal wiring with enough spare wires/cables with safe guard protection. Rates are for One day of Working and one day before testing (Not including Rehearsal)	1st Day/job	0.00	105938.00	105938.00
11-5-28	Hire charges for providing, erecting, testing & commissioning, operating, and dismantling of Sound Console system for public address system for CM/ VVIP FUNCTION 32 Channel Digital Console in built effect processor, 31 Band Equalizer , High performance, PRE AMP (MIDAS M32 / BEHRINGER X32 OR EQUIVALENT) - 1 NOS. Stage Monitors- 800 Watts (JBL / VRX 915 / RCF V35 / JBL SRX 712 OR EQUIVALENT) - 4 Nos. Side fills Monitors-100 WATTS (JBL /BNC / RCF OR EQUIVALENT) - 2 Nos. Active Crossover - 1 Nos. Microphones with stand (SHURE / SENNHEIZER OR EQUIVALENT) - 22 Nos DI BOX (BEHRINGER / BSS / RADIAL) - 8 Nos. High Quality Cordless microphones-(SHURE / SENNHEIZER or equivalent.) - 04 Nos Audio Link 32 Channel - 1 Nos. High Performance CD/DVD player- 1 No., Laptop with AV in-output 1 No. for Recording and playing. 2 KVA UPS - 2 Nos. All necessary, control, signal wiring with enough spare wires/cables with safe guard protection. Rates are for One day of Working and one day before testing (Not including Rehearsal)	1st Day/job	0.00	169500.00	169500.00
11-5-29	Hire charges for providing, erecting, testing & commissioning, operating, and dismantling of public address system for CM/ VVIP FUNCTION RCF HDL 20 / JBL VRX - 2 WAY TOPS - Pair of 6 Nos. RCF 8006 AS SUBS / JBL DUAL 18' SUB WOOFER - Pair of 3 Nos. POWER AMLIFIER - 12 NOS RCF HDL 20 / 2 WAY 1000 WATT FOR CENTRE FILL - 4 TOPS NECESSARY AMPLIFIER POWER SUPPLY PANNEL - 3 NOS All necessary truss, control, signal wiring with enough spare wires/cables with safe guard protection. Rates are for One day of Working and one day before testing (Not including Rehearsal)	1st Day/job	0.00	254250.00	254250.00

CHAPTER-12-REPAIRING

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
12-1-1.	Removing the pump set from foundation after removing suction & discharge connection pipes & all wiring connections taking it to workshop & open it for fault finding , refitting the same, after carrying out repairing, taking back on site refitting on foundation with pipe & wiring connections & put in working condition. (Excludes cost of repairing. Includes to & from transportation)				
	(A) Up to 3 HP	Job	0.00	195.00	195.00
	(B) Above 3 HP to 7.5 HP	Job	0.00	276.00	276.00
	(C) 10 Hp to 20 HP	Job	0.00	382.00	382.00
12-1-2.	Removing deteriorated gasket, gland packing, washer nuts & bolts before refitting of motor pump set.				
	(A) Up to 3 HP	Ea.	60.00	34.00	94.00
	(B) Above 3 HP to 7.5 HP	Ea.	102.00	39.00	141.00
	(C) 10 Hp to 20 HP	Ea.	145.00	39.00	184.00
12-1-3.	Rewinding of 230V single phase motor as per original winding design by using super enamelled copper Wire and putting the same in working condition as per original.				
	(A) up to 0.5 HP	Ea.	445.00	47.00	492.00
	(B) Upton 0.75 HP	Ea.	556.00	47.00	603.00
	(C) Upton 1.0 HP	Ea.	615.00	47.00	662.00
12-1-4.	Rewinding of 3 phase 440V motor as per original winding design by using super enamelled copper Wire and putting the same in working condition as per original.	Ea.			
	(A) up to 1 HP	Ea.	628.00	85.00	713.00
	(B) Up to 1.5 HP	Ea.	687.00	85.00	772.00
	(C) Up to 2 HP	Ea.	797.00	85.00	882.00
12-1-5.	Rewinding of 3 H.P., 3 phase 440V motor as per original winding design by using super enamelled copper Wire and putting the same in working condition as per original.	Ea.	1060.00	111.00	1171.00
12-1-6.	Rewinding of 5 H.P., 3 phase 440V motor as per original winding design by using super enamelled copper Wire and putting the same in working condition as per original.	Ea.	1950.00	170.00	2120.00
12-1-7.	Rewinding of 7.5 H.P., 3 phase 440V motor as per original winding design by using super enamelled copper Wire and putting the same in working condition as per original.	Ea.	2416.00	246.00	2662.00
12-1-8.	Rewinding of 10 H.P., 3 phase 440V motor as per original winding design by using super enamelled copper Wire and putting the same in working condition as per original.	Ea.	3068.00	280.00	3348.00
12-1-9.	Rewinding of 12.5 H.P., 3 phase 440V motor as per original winding design by using super enamelled copper Wire and putting the same in working condition as per original.	Ea.	4289.00	280.00	4569.00
12-1-10.	Rewinding of 15 H.P., 3 phase 440V motor as per original winding design by using super enamelled copper Wire and putting the same in working condition as per original.	Ea.	5170.00	339.00	5509.00
12-1-11.	Rewinding of 20 H.P., 3 phase 440V motor as per original winding design by using super enamelled copper Wire and putting the same in working condition as per original.	Ea.	6102.00	467.00	6569.00
12-1-12.	Replacing burnout unserviceable ball bearing /roller bearing suitable for following motors for mono block pump sets				

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
	(A) For 1 H.P. motor/pump	Ea.	162.00	43.00	205.00
	(B) For 2 H.P. motor/pump	Ea.	238.00	43.00	281.00
	(C) For 3 H.P. motor/pump	Ea.	297.00	43.00	340.00
	(D) For 5 H.P. motor/pump	Ea.	323.00	68.00	391.00
	(E) For 7.5 H.P. motor/pump	Ea.	407.00	68.00	475.00
	(F) For 10/12.5 H.P. motor/pump	Ea.	585.00	68.00	653.00
	(G) For 15 H.P. motor/pump	Ea.	687.00	111.00	798.00
	(H) For 20 H.P. motor/pump	Ea.	721.00	111.00	832.00
SECTION 12-2					
REPAIRING OF OPEN WELL HORIZONTAL MONO PUMP SETS					
12-2-1.	Dewatering sump well by hiring pump sets & temporary pipe connections of following sump capacity				
	(A) up to 5000 Ltr	Job	0.00	272.00	272.00
	(B) Above 5000 Ltr to 20000 Ltr	Job	0.00	323.00	323.00
	(C) Above 20000 Ltr to 1 Lac Ltr	Job	0.00	441.00	441.00
	(D) Above 1 Lac Ltr	Job	0.00	636.00	636.00
12-2-2.	Opening the open well sub. mono pump set for fault finding , carry out required repairs refitting the same with necessary oiling, greasing & overhauling & making pump set in good working condition. (Excludes cost of repairing. Includes to & from transportation)				
	(A) 1HP to 5HP	Ea.	0.00	323.00	323.00
	(B) 7.5 to 15HP	Ea.	0.00	433.00	433.00
	(C) Above 15HP	Ea.	0.00	551.00	551.00
12-2-3.	Rewinding single phase 230V motor for open well horizontal mono pump set by using polycab copper winding wire & putting the same in working order for pump capacity of				
	(A) 0.5 HP - 230V	Ea.	1119.00	111.00	1230.00
	(B) 0.75 HP 230V	Ea.	1289.00	111.00	1400.00
	(C) 1HP - 230 V	Ea.	1543.00	111.00	1654.00
12-2-4.	Rewinding 3 phase, 440V motor for open well horizontal mono pump set by using poly. cap copper winding wire & putting the same in working order for pump capacity of				
	(A) 0.5 H.P./ 1 HP / 1.5 HP - 440V	Ea.	1373.00	111.00	1484.00
	(B) 2 HP / 3 HP - 440V	Ea.	1441.00	128.00	1569.00
	(C) 5 HP - 440V	Ea.	1950.00	212.00	2162.00
	(D) 7.5 HP - 440V	Ea.	2373.00	212.00	2585.00
	(E) 10 HP - 440V	Ea.	3306.00	297.00	3603.00
	(F) 12.5 HP - 440V	Ea.	3772.00	297.00	4069.00
	(G) 15 HP - 440V	Ea.	3933.00	348.00	4281.00
	(H) 20 HP - 440V	Ea.	4102.00	390.00	4492.00
	(I) 25 HP - 440V	Ea.	5085.00	424.00	5509.00
	(J) 30 HP - 440V	Ea.	5619.00	441.00	6060.00
12-2-5.	Replacement of S.S. sleeves for shaft of open well horizontal submersible pump sets for				
	(A) 1HP to 5HP	Ea.	314.00	56.00	370.00
	(B) 7.5 to 15HP	Ea.	577.00	56.00	633.00
	(C) Above 15HP	Ea.	975.00	56.00	1031.00
12-2-6.	Replacement of Stainless Steel bushing fitted in end shield for open well horizontal submersible pump set				
	(A) 1HP to 5 HP	Ea.	517.00	56.00	573.00
	(B) 7.5Hp to 15 HP	Ea.	806.00	56.00	862.00
	(C) above 15 HP	Ea.	992.00	56.00	1048.00
12-2-7.	Replacement of Gun metal /Bronze bushing for open well horizontal submersible pump set				
	(A) 1HP to 5 HP	Ea.	221.00	56.00	277.00
	(B) 7.5Hp to 15 HP	Ea.	331.00	56.00	387.00
	(C) above 15 HP	Ea.	395.00	56.00	451.00
12-2-8.	Replacing gasket, oil, nuts, bolts & washers for open well horizontal submersible pump sets.				
	(A) 1HP to 5 HP	Ea.	225.00	60.00	285.00
	(B) 7.5Hp to 15 HP	Ea.	339.00	60.00	399.00
	(C) above 15 HP	Ea.	395.00	60.00	455.00

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
12-2-9.	Replacement of Bronze / Carbon thrust bearing with fibber plate & bushing suitable for open well horizontal submersible pump set for				
	(A) 1HP to 5 HP	Ea.	1255.00	60.00	1315.00
	(B) 7.5Hp to 15 HP	Ea.	1636.00	60.00	1696.00
	(C) above 15 HP	Ea.	2102.00	60.00	2162.00
12-2-10.	Replacement of cast iron impeller for openwell horizontal submersible pump pump sets				
	(A) 1HP to 5 HP	Ea.	280.00	94.00	374.00
	(B) 7.5Hp to 15 HP	Ea.	509.00	166.00	675.00
	(C) above 15 HP	Ea.	873.00	178.00	1051.00
12-2-11.	Replacement of Bronze / Gunmetal impeller for open well horizontal submersible pump set				
	(A) 1HP to 5 HP	Ea.	839.00	111.00	950.00
	(B) 7.5Hp to 15 HP	Ea.	958.00	178.00	1136.00
	(C) above 15 HP	Ea.	1229.00	178.00	1407.00
SECTION 12-3 REPAIRING OF SUBMERSIBLE PUMP SETS					
12-3-1.	Opening the submersible pump set for fault finding , carry out required repairs refitting the same with necessary oiling, greasing & overhauling & making pump set in good working condition. (Excludes cost of repairing. Includes to & from transportation)				
	(A) 1HP to 5HP	Ea.	0.00	280.00	280.00
	(B) 7.5 to 15HP	Ea.	0.00	399.00	399.00
	(C) 20HP to 35 HP	Ea.	0.00	505.00	505.00
	(D) Above 35 HP	Ea.	0.00	687.00	687.00
12-3-2.	Rewinding of submersible motor by using approved make PVC insulated copper winding Cores of suitable size complete with connection. Capacity Suitable for pump of following size. Dismantled Materials to be retained by agency.				
	(A) 5 HP	Ea.	1861.00	162.00	2023.00
	(B) 7.5 H.P	Ea.	2356.00	178.00	2534.00
	(C) 10 to 15 H.P	Ea.	3153.00	280.00	3433.00
	(D) 16 to 20 H.P	Ea.	3602.00	365.00	3967.00
	(E) 21 to 25 H.P	Ea.	4500.00	424.00	4924.00
	(F) 26 to 35 H.P	Ea.	5797.00	509.00	6306.00
	(G) 36 to 45 H.P	Ea.	8560.00	1145.00	9705.00
	(H) 46 to 54 H.P	Ea.	10933.00	2204.00	13137.00
	(I) 55 to 75 H.P	Ea.	23560.00	2712.00	26272.00
12-3-3.	Replacement of bronze/ carbon thrust bearing with fibre plate & housing for				
	(A) 150 mm. dia.	Ea.	1450.00	111.00	1561.00
	(B) 200 mm. dia.	Ea.	2102.00	111.00	2213.00
12-3-4.	Replacement of motor bush, upper/ lower with sleeve with following material				
	(A) Bronze				
	(i)150 mm. dia.	Ea.	509.00	60.00	569.00
	(ii)200 mm. dia	Ea.	1026.00	60.00	1086.00
	(B)Rubber				
	(i) 150 mm. dia.	Ea.	306.00	26.00	332.00
	(ii) 200 mm. dia.	Ea.	509.00	26.00	535.00
12-3-5.	Replacement of stage casing bowl with nuts and bolts.				
	(A)C.I.				
	(i)150 mm. dia.	Ea.	339.00	60.00	399.00
	(ii)200 mm. dia	Ea.	517.00	60.00	577.00
	(B)Bronze				
	(i) 150 mm. dia.	Ea.	560.00	60.00	620.00
	(ii) 200 mm. dia.	Ea.	704.00	60.00	764.00
12-3-6.	Replacement of Bronze impeller with neck ring.				
	(i) 150 mm. dia.	Ea.	399.00	60.00	459.00
	(ii) 200 mm. dia.	Ea.	611.00	60.00	671.00
12-3-7.	Replacement of Shaft sleeve stainless steel.				
	(i) 150 mm. dia.	Ea.	60.00	13.00	73.00
	(ii) 200 mm. dia.	Ea.	145.00	13.00	158.00

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
12-3-8.	Replacement of Bowl bearing/ bush				
	(A) Rubber				
	(i)150 mm. dia.	Ea.	314.00	60.00	374.00
	(ii)200 mm. dia	Ea.	611.00	60.00	671.00
	(B) Lead				
	(i) 150 mm. dia.	Ea.	712.00	60.00	772.00
	(ii) 200 mm. dia.	Ea.	1111.00	60.00	1171.00
12-3-9.	Replacement of S.S.Shaft for				
	(A) 3 stage pump				
	(i)150 mm. dia.	Ea.	306.00	34.00	340.00
	(ii)200 mm. dia	Ea.	475.00	43.00	518.00
	(B) Add per stage				
	(i) 150 mm. dia.	Ea.	85.00	13.00	98.00
	(ii) 200 mm. dia.	Ea.	128.00	13.00	141.00
12-3-10.	Replacement of suction strainer				
	(i)150 mm. dia.	Ea.	111.00	22.00	133.00
	(ii)200 mm dia.	Ea.	195.00	34.00	229.00
SECTION 12-4					
12-4-1.	Supplying and erecting approved make new power saver rotary sealed type compressor suitable for operation on 220 / 230 V 50 c/s. A.C. supply for One Ton capacity window/ Split type Air conditioner or water coolers of 150 Litre capacity	Ea.	11077.00	467.00	11544.00
12-4-2	Supplying and erecting approved make Reciprocating compressor suitable for operation on 220 / 230 V 50 c/s. A.C. supply for One Ton capacity window/ Split type Air conditioner or water coolers of 150 Litre capacity	Ea.	11924.00	467.00	12391.00
12-4-3.	Supplying and erecting approved make new power saver rotary sealed type compressor suitable for operation on 220/230V. 50 c/s. A.C. supply for 1.5 Ton capacity window/ Split type A.C.	Ea.	12916.00	467.00	13383.00
12-4-4.	Supplying and erecting approved make new power saver rotary sealed type compressor suitable for operation on 220/230V. 50 c/s. A.C. supply for 2.0 Ton capacity window/Split type A.C.				
	(A) Rotary compressor	Ea.	13424.00	509.00	13933.00
	(B) Reciprocating compressor	Ea.	14263.00	509.00	14772.00
12-4-5.	Supplying and replacing the defective compressor (which is not opened at any time) by manufacturers factory repaired compressor.				
	(A) For 3024 Kcal / hr. (1.0 ton) refrigeration effect	Ea.	7416.00	339.00	7755.00
	(B) For 4536 Kcal / hr. (1.5 Ton) refrigeration effect	Ea.	8628.00	339.00	8967.00
	(C) For 6048 Kcal / hr. (2.0 ton) refrigeration effect	Ea.	10492.00	339.00	10831.00
12-4-6.	Supplying and replacing the defective Compressor (which is cut) should be replaced by new power saver rotary compressor by manufacturers factory repaired compressor				
	(A) for 3024 kcal / hr. (1 ton) refrigeration effect	Ea.	8628.00	382.00	9010.00
	(B) for 4536 kcal / hr. (1.5 ton) refrigeration effect	Ea.	9229.00	382.00	9611.00
12-4-7.	Supplying and replacing the 5 TR capacity defective compressor by new scroll compressor (A) Un-cut	Ea.	30204.00	636.00	30840.00
12-4-8.	Replacing old and unserviceable fan motor by new 1/6 H.P. two speed Fan motor, fan of 350 to 1200 CFM flow suitable for A.C. machine.	Ea.	2051.00	64.00	2115.00
12-4-9.	Replacing new bushing suitable for fan motor of A.C. machine	Ea.	212.00	22.00	234.00

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
12-4-10.	Rewinding 1/6 H.P. two speed fan motor/ blower motor of air conditioner using supper enamelled copper wire complete putting in working order after varnishing and testing	Ea.	704.00	77.00	781.00
12-4-11.	Replacing fan motor capacitor 6 mfd by new for A.C. machine	Ea.	145.00	13.00	158.00
12-4-12.	Replacing unserviceable thermostats switch by new Danfoss or approved make thermostats switch having temp. range 15 °C to 30 °C for A.C. machine	Ea.	424.00	30.00	454.00
12-4-13.	Replacing starting capacitor of 80 to 120 MFD for 1.5 H.P. compressor motor of A.C. machine	Ea.	280.00	43.00	323.00
12-4-14.	Replacing unserviceable starting capacitor of 125 to 200 MFD for 2.5 H.P. compressor motor for A.C. machine.	Ea.	373.00	43.00	416.00
12-4-15.	Replacing unserviceable running capacitor of 36 MFD to 50 MFD upto 2.5H.P. compressor motor for A.C. machine upto 2 Ton. And for Single Phase Motor	Ea.	458.00	43.00	501.00
12-4-16.	Replacing the overload protector for compressor motor, winding if temp exceeds 240° F with a time lag of 10 sec. suitable for 1.5 ton A.C. machine.	Ea.	255.00	43.00	298.00
12-4-17.	Replacing compressor starting relay by new on having pick-up voltage 220 V and drop-out voltage 120V suitable for 1.5 ton A.C. machine.	Ea.	280.00	43.00	323.00
12-4-18.	Replacing copper capillary tube of 0.055"/0.060"/0.064" bored and suitable for 1.0/ 1.5/2.0 ton A.C. machine	Ea.	140.00	22.00	162.00
12-4-19.	Replacing air filter for A.C. machine (a) PVC / NYLON / HDPE	Ea.	187.00	22.00	209.00
12-4-20.	Replacing wheel blower suitable for Window type A.C. machine.	Ea.	280.00	51.00	331.00
12-4-21.	Rewiring the entire window type A.C. machine with 2.5mm 2 flexible copper Core and putting the same in working order.	Ea.	327.00	64.00	391.00
12-4-22.	Removing the defective compressor for the A.C. machine by disconnecting the suction and discharge lines.	Ea.	0.00	212.00	212.00
12-4-23.	Erecting the new factory repaired compressor on the foundation of the window type A.C. machine with necessary sundry material and reconnection the suction and discharge line with compressor.	Ea.	0.00	382.00	382.00
12-4-24.	Flushing the line, leak testing, leak stopping, vacuuming, dehydrating and charging the gas in the refrigeration system for A.C. machine up to 2 TR	Ea.	865.00	594.00	1459.00
12-4-25.	Overhauling and servicing the window type A.C.MACHINES by cleaning the condenser, cooling coil etc. by blower and oiling the fan motor and cleaning all necessary parts and putting the machine in working order.	Job	0.00	212.00	212.00
12-4-26.	Overhauling and servicing the window type A.C.MACHINES by Chemical cleaning of the condenser, cooling coil etc. by veniclean/Eq. material, water & cleaning all necessary parts and putting the machine in working order.	job	0.00	424.00	424.00
12-4-27.	Providing and erecting G.I. Sheet housing of A.C. machine with fabricating and painting complete.				
	(A)18 Gauge	Ea.	1212.00	128.00	1340.00
	(B) 16 Gauge	Ea.	2102.00	128.00	2230.00
12-4-28.	Replacing the fan blade for A.C. machine by new one.	Ea.	424.00	43.00	467.00
12-4-29.	Replacing the old grill by supplying and erecting new grill for Window type A.C. machine up to 2.0 TR	Ea.	1170.00	43.00	1213.00

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
12-4-30.	Replacing old and unserviceable rotary / selector switch by new 14 A four to five position 250 V rotary switch for A.C. machine	Ea.	170.00	43.00	213.00
12-4-31.	Providing and erecting Air Cooled Condenser unit having face area of 0.235 Sq.Mtr. made out of 27 / 30 gauge copper tube and cover with Aluminium fins of 12-13FPI . For Window type A.C. Machine.				
	(A) for 1.0 TR A.C. Machine with 3/4 Row deep Coil	Ea.	2797.00	212.00	3009.00
	(B) For 1.5 TR A.C. Machine with 3/4 Row Deep coil	Ea.	3263.00	212.00	3475.00
	(C) For 2.0 TR A.C. Machine with 3/4 Row Deep coil	Ea.	3636.00	212.00	3848.00
12-4-32.	Providing, and erecting evaporator coil having suitable external surface area made out of copper tube with 0. 15 mm. thick Aluminium fins of 12-13FPI. For Window type A.C. Machine.				
	(A) for 1.0 TR A.C. Machine with 3/4 Row deep Coil	Ea.	1848.00	170.00	2018.00
	(B) For 1.5 TR A.C. Machine with 3/4 Row Deep coil	Ea.	2331.00	170.00	2501.00
	(C) For 2.0 TR A.C. Machine with 3/4 Row Deep coil	Ea.	2611.00	170.00	2781.00
12-4-33	Replacement of defective remote control hand set with new battery cells.				
	(A) Window Air conditioner	Ea	704.00	0.00	704.00
12-4-34.	Shifting of Window A.C. The Scope includes dismantling, shifting, re-installing & re-commissioning of the units including topping up of Refrigerant gas.for 1.00, 1.5 & 2.0 TR capacity.	Ea.	0.00	848.00	848.00
12-4-35.	Replacement of defective remote control panel unit of window air conditioner.	Ea.	1678.00	170.00	1848.00
SECTION 12-5 REPAIRS TO SPLIT AIR CONDITIONERS					
12-5-1.	Providing and erecting Air Cooled Condenser unit having face area of 0.235 Sq.Mtr. made out of 27 / 30 gauge copper tube and cover with Aluminium fins of 12-13FPI . For Split AC Machine				
	(A) for 1.0 TR A.C. Machine with 3/4 Row deep Coil	Ea.	3221.00	212.00	3433.00
	(B) For 1.5 TR A.C. Machine with 3/4 Row Deep coil	Ea.	3755.00	212.00	3967.00
	(C) For 2.0 TR A.C. Machine with 3/4 Row Deep coil	Ea.	4195.00	212.00	4407.00
	(D) Replacing wheel blower suitable for Split type A.C. machine.	Ea.	280.00	51.00	331.00
	(E) Replacing unserviceable running capacitor of 36 MFD to 50 MFD + 2 to 4 MFD Upto 2.5 H.P. compressor motor for A.C. machine upto 2 Ton..	Ea.	560.00	43.00	603.00
12-5-2.	Replacing old and unserviceable Indoor unit Fan Blower motor by new 12 watt to 30 Watt capacity suitable for Split AC machine.	Ea.	1017.00	60.00	1077.00
12-5-3.	Providing, and erecting evaporator coil having suitable external surface area made out of copper tube with 0. 15 mm. thick Aluminium fins of 12-13FPI. For Split AC Machine				
	(A) for 1.0 TR A.C. Machine with 3/4 Row deep Coil	Ea.	2119.00	170.00	2289.00
	(B) For 1.5 TR A.C. Machine with 3/4 Row Deep coil	Ea.	2678.00	170.00	2848.00
	(C) For 2.0 TR A.C. Machine with 3/4 Row Deep coil	Ea.	3000.00	170.00	3170.00
12-5-4.	Replacement of defective remote control hand set with new battery cells.				
	(A) Split Unit - Local make	Ea	839.00	0.00	839.00
	(B) Split Unit -OEM make		1678.00	0.00	1678.00

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
12-5-5.	repairing of PCB of remote control of split ac machine	ea.	933.00	43.00	976.00
12-5-6.	Replacement of defective remote control panel assembly unit of Split air conditioner.	Ea.	2331.00	170.00	2501.00
12-5-7.	Shifting of Split A.C. The Scope includes dismantling, shifting, re-installing & re-commissioning of the units including topping up of Refrigerant gas, minor civil work wiring existing piping M S Stand electrical cabling with PVC down piping for 1.00, 1.5 & 2.0 TR capacity.	Ea	0.00	1950.00	1950.00
12-5-8.	Replacing the defective indoor unit body by supplying and erecting new complete set of body up to 2.0 TR	Ea.	3356.00	212.00	3568.00
12-5-9.	Overhauling and servicing the Split type A.C.MACHINES by Chemical cleaning of the condenser, cooling coil etc. by veniclean/Eq. material, water & cleaning all necessary parts and putting the machine in working order.	job	0.00	509.00	509.00
12-5-10.	Replacement of defective Oscillating louvers of Split air conditioner up to 2.0 TR capacity.	Ea.	695.00	212.00	907.00
12-5-11.	Replacement of defective Oscillating motor of Split air conditioner up to 2.0 TR capacity.	Ea.	467.00	128.00	595.00
12-5-12.	Replacement of defective Oscillating louvers & motor connecting assembly of Split air conditioner up to 2.0 TR capacity.	Ea.	467.00	128.00	595.00
12-5-13.	Replacement of defective isolation/service valves of outdoor unit of Split air conditioner up to 2.0 TR capacity.	Ea.	416.00	43.00	459.00
12-5-14.	Providing and erecting Outdoor unit for Split A.C. Machine unit consisting following component (1) Air Cooled Condenser unit having minimum face area of 0.235 Sq.Mtr. made out of 27 / 30 gauge copper tube and cover with Aluminium fins of 12-13FPI with 3/4 Row deep (2) Approved make new power saver rotary sealed type compressor suitable for operation on 220/230V. 50 c/s. A.C. supply for Split type A.C Machine (3) Suitable Size of condensor motor for operation on 220/230V. 50 c/s. A.C. supply with fan blade and require running and starting capacitor (4) Suitable Size of Copper capillary tube of 0.055"/0.060"/0.064" bored for Split A.C.Machine				
	(A) For 3 star Rating (1)For ISEER Range (KWH/KWH)(3.1 to 3.99)				
	(a) for 1.0 TR A.C. Machine	Ea.	13114.00	5621.00	18735.00
	(b) For 1.5 TR A.C. Machine	Ea.	15710.00	6733.00	22443.00
	(c) For 2.0 TR A.C. Machine	Ea.	19730.00	8457.00	28187.00
	(B) For 5 star Rating (2)For ISEER Range (KWH/KWH)(4.0 to 4.49)				
	(a) for 1.0 TR A.C. Machine	Ea.	15201.00	6515.00	21716.00
	(b) For 1.5 TR A.C. Machine	Ea.	19272.00	8260.00	27532.00
	(c) For 2.0 TR A.C. Machine	Ea.	25281.00	10835.00	36116.00
12-5-15.	Providing and erecting Indoor unit for Split A.C. Machine unit consisting following component (1) Evaporator coil having suitable external surface area made out of copper tube with 0.15 mm. thick Aluminium fins of 12-13FPI. with 3/4 Row deep Coil (2) Approved make new blower fan motor 12 watt to 30 watt variable speed Fan motor, fan of 350 to 1200 CFM flow suitable for operation on 220/230V. 50 c/s. A.C. supply for Split type A.C Machine (3) Wheel blower, swing motor, air filter and PCB unit etc. for Split A.C.Machine				
	(A) For 3 star Rating (1)For ISEER Range (KWH/KWH)(3.1 to 3.99)				

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
	(a) for 1.0 TR A.C. Machine	Ea.	8071.00	3460.00	11531.00
	(b) For 1.5 TR A.C. Machine	Ea.	9668.00	4144.00	13812.00
	(c) For 2.0 TR A.C. Machine	Ea.	12142.00	5204.00	17346.00
	(B) For 5 star Rating (2)For ISEER Range (KWH/KWH)(4.0 to 4.49)				
	(a) for 1.0 TR A.C. Machine	Ea.	9354.00	4010.00	13364.00
	(b) For 1.5 TR A.C. Machine	Ea.	11860.00	5083.00	16943.00
	(c) For 2.0 TR A.C. Machine	Ea.	15557.00	6668.00	22225.00
12-5-16.	Providing and erecting Outdoor unit for Inverter based Split A.C. Machine unit consisting following component (1) Air Cooled Condenser unit having minimum face area of 0.235 Sq.Mtr. made out of 27 / 30 gauge copper tube and cover with Aluminium fins of 12-13FPI with 3/4 Row deep (2) Approved make new power saver rotary sealed type compressor suitable for operation on 220/230V. 50 c/s. A.C. supply for Split type A.C Machine (3) Suitable Size of condensor motor for operation on 220/230V. 50 c/s. A.C. supply with fan blade and require running and starting capacitor (4) Suitable Size of Copper capillary tube of 0.055"/0.060"/0.064" bored for Split A.C.Machine (5) outdoor unit PCB Circuit				
	(A) For 3 star Rating (1)For ISEER Range (KWH/KWH)(3.1 to 3.99)				
	(a) for 1.0 TR A.C. Machine	Ea.	18846.00	8078.00	26924.00
	(b) Upto 1.8 TR A.C. Machine	Ea.	19512.00	8363.00	27875.00
	(c) Upto 2.2 TR A.C. Machine	Ea.	24167.00	10358.00	34525.00
	(B) For 5 star Rating (2)For ISEER Range (KWH/KWH)(4.0 to 4.49)				
	(a) for 1.0 TR A.C. Machine	Ea.	21950.00	9408.00	31358.00
	(b) Upto 1.8 TR A.C. Machine	Ea.	27139.00	11632.00	38771.00
	(c) Upto 2.2 TR A.C. Machine	Ea.	35253.00	15110.00	50363.00
12-5-17.	Providing and erecting Indoor unit for Inverter based Split A.C. Machine unit consisting following component (1) Evaporator coil having suitable external surface area made out of copper tube with 0.15 mm. thick Aluminium fins of 12-13FPI. with 3/4 Row deep Coil (2) Approved make new blower fan motor 12 watt to 30 watt variable speed Fan motor, fan of 350 to 1200 CFM flow suitable for operation on 220/230V. 50 c/s. A.C. supply for Split type A.C Machine (3) Wheel blower, swing motor, air filter and PCB unit etc. for Split A.C.Machine				
	(A) For 3 star Rating (1)For ISEER Range (KWH/KWH)(3.1 to 3.99)				
	(a) for 1.0 TR A.C. Machine	Ea.	11598.00	4971.00	16569.00
	(b) Upto 1.8 TR A.C. Machine	Ea.	12007.00	5147.00	17154.00
	(c) Upto 2.2 TR A.C. Machine	Ea.	14873.00	6375.00	21248.00
	(B) For 5 star Rating (2)For ISEER Range (KWH/KWH)(4.0 to 4.49)				
	(a) for 1.0 TR A.C. Machine	Ea.	13508.00	5790.00	19298.00
	(b) Upto 1.8 TR A.C. Machine	Ea.	16701.00	7158.00	23859.00
	(c) Upto 2.2 TR A.C. Machine	Ea.	21695.00	9298.00	30993.00
12-5-18.	Providing and Erecting PCB Circuit of Indoor Unit for Inverter Type 3 Star rating Split A.C. Machine upto 2.2 TR Capacity.	Ea.	2522.00	1081.00	3603.00
12-5-19.	Providing and Erecting PCB Circuit of Outdoor Unit for Inverter Type 3 Star rating Split A.C. Machine upto 2.2 TR Capacity.	Ea.	4895.00	2098.00	6993.00
12-5-20.	Providing and Erecting PCB Circuit of Indoor Unit for Inverter Type 5 Star rating Split A.C. Machine upto 2.2 TR Capacity.	Ea.	3328.00	1427.00	4755.00
12-5-21.	Providing and Erecting PCB Circuit of Outdoor Unit for Inverter Type 5 Star rating Split A.C. Machine upto 2.2 TR Capacity.	Ea.	6461.00	2769.00	9230.00

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
SECTION 12-6/ REPAIRS TO WATER COOLERS					
12-6-1.	Replacing old and unserviceable fan motor by new 1/10 to 1/12 H.P., 1250 RPM fan motor for water cooler.	Ea.	2009.00	128.00	2137.00
12-6-2.	Rewinding 1/10 to 1/12 H.P., 1250 RPM fan blower motor of water cooler using supper enamelled cooper Core with new bushes complete putting in working order after varnishing and testing.	Ea.	585.00	60.00	645.00
12-6-3.	Replacing the new bushing suitable for fan motor for water cooler.	Ea.	187.00	26.00	213.00
12-6-4.	Replacing unserviceable thermostat switch by Danfoss or approved make thermostat having range 1 c to 22 C for water switch for water cooler.	Ea.	399.00	30.00	429.00
12-6-5.	Replacing 4 MFD fan motor capacitor by new for water cooler.	Ea.	136.00	26.00	162.00
12-6-6.	Replacing, starting capacitor of 60 to 80 MFD for 1.5 H.P. compressor motor of water cooler.	Ea.	212.00	26.00	238.00
12-6-7.	Replacing unserviceable 25 to 36 MFD running capacitor for 1.5H.P. compressor motor of water cooler.	Ea.	399.00	34.00	433.00
12-6-8.	Replacing overload protector for compressor motor winding if temp. exceeds 240 F with a time lag of 10sec. suitable for water cooler.	Ea.	212.00	26.00	238.00
12-6-9.	Replacing compressor starting relay by new one having pick-up and drop-out voltage 220 V and 120 V resp. suitable for water cooler.	Ea.	255.00	34.00	289.00
12-6-10.	Rewiring the water cooler of any make with 1.5 Sq. mm flexible copper Core and putting the same in working order.	Ea.	314.00	60.00	374.00
12-6-11.	Removing the defective compressor from the water cooler by dis-connecting the suction and dis- charge lines.	Job	0.00	212.00	212.00
12-6-12.	Erecting the new factory repaired compressor on the foundation of water cooler with necessary sundry material and re-connecting the suction and discharge lines with compressor.	Job	0.00	297.00	297.00
12-6-13.	Flushing the line, leak testing, leak stopping, vacuuming, dehydrating and charging the gas in the refrigeration system for water cooler machine including replacement of unserviceable liquid strainer.	Ea.	865.00	382.00	1247.00
12-6-14.	finding out leakage from s.s tank and Soldering/welding of the leakage point of S.S. tank with necessary descaling and fitting the same S.S. tank bounded with cooling coil within outer body cover and insulating and refitting with testing complete.	Ea.	653.00	678.00	1331.00
12-6-15.	Replacing the rusted openable top cover of the water cooler by new openable top cover with painting	Ea.	623.00	128.00	751.00
12-6-16.	Replacing the rusted openable top cover of the water cooler by new G. I. powder coated openable top cover.	Ea.	1119.00	128.00	1247.00
12-6-17.	Replacing the rusted openable top cover of the water cooler by new stainless steel openable top cover.	Ea.	1678.00	128.00	1806.00
12-6-18.	Replacing the front rusted cover by new G.I. front cover suitable for water cooler duly painted.	Ea.	611.00	85.00	696.00
12-6-19.	Replacing the front rusted cover by new front cover of Stainless steel suitable for water cooler.	Ea.	1585.00	85.00	1670.00
12-6-20.	Replacing the rusted rear cover by new G.I. rear cover suitable for water cooler duly painted	Ea.	797.00	128.00	925.00
12-6-21.	Replacing the rusted rear cover by new stainless steel rear cover suitable for water cooler.	Ea.	1543.00	128.00	1671.00

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
12-6-22.	Replacing the rusted both side covers by new G.I. side covers suitable for water cooler duly painted.	Ea.	984.00	128.00	1112.00
12-6-23.	Replacing the rusted both side covers by new stainless steel side covers suitable for water cooler.	Ea.	1729.00	128.00	1857.00
12-6-24.	Replacing the rusted foundation by new foundation fabricated from angle iron frame with necessary legs duly painted with black paints.	Ea.	704.00	128.00	832.00
12-6-25.	Replacing rusted fan motor stand fabricated from angle iron duly painted	Ea.	662.00	128.00	790.00
12-6-26.	Cleaning condenser coil and rusted bottom portion of water cooler and painting the same with black paints.	Ea.	145.00	68.00	213.00
12-6-27.	Spray painting of water cooler with hammertone approved quality of colour including black painting of rear cover	Ea.	933.00	212.00	1145.00
12-6-28.	Replacing the old and unserviceable ball cock assembly by new one suitable for 1/2" G.I. pipe connection.	Ea.	136.00	43.00	179.00
12-6-29.	Replacing unserviceable PVC flexible inlet and outlet pipes.	Rft.	81.00	22.00	103.00
12-6-30.	Erection charges for water filter supplied by department.	Job.	0.00	60.00	60.00
12-6-31.	Supplying and erecting condenser unit Air cooled indigenous type having 9.5 mm OD (nominal) copper condenser tube and Aluminium fins complete suitable for water cooler.	Ea.	2734.00	183.00	2917.00
12-6-32.	Replacing unserviceable water tank assembly of stainless steel with necessary insulation surrounding the tank body of water cooler of following capacity.				
	(A) 40 Ltrs cooling capacity./80 Ltrs storage capacity	Ea.	3356.00	382.00	3738.00
	(B) 60 Ltrs cooling capacity./120 Ltrs storage capacity	Ea.	4195.00	382.00	4577.00
	(C) 150 Ltrs cooling capacity./150 Ltrs storage capacity	Ea.	5306.00	509.00	5815.00
12-6-33.	Replacing unserviceable Push cock assembly by new chrome plated brass push cock assembly.	Ea.	229.00	43.00	272.00
REPAIRS TO R.O Plant					
12-6-34.	Providing ROW water booster pump for 10 Ltr. R.O. system	Ea.	1907.00	157.00	2064.00
12-6-35.	Providing Membranes for 10 Ltr. R.O. System	Ea.	1738.00	145.00	1883.00
12-6-36.	Providing & Erecting New Spun Filter and other Filter Set With Bowl.	Ea.	1526.00	128.00	1654.00
12-6-37.	Providing & Erecting Solenoid valve for 10 Ltr. R.O. System	Ea.	382.00	34.00	416.00
12-6-38.	Repairing and servicing labour charges for 10 Ltr. R.O. System	Ea.	0.00	424.00	424.00
12-6-39.	Providing Power Supply Adaptor for 10 Ltr. R.O. System	Ea.	678.00	9.00	687.00
12-6-40.	Providing ROW water booster pump for 25 Ltr. R.O. system	Ea.	3729.00	187.00	3916.00
12-6-41.	Providing Membranes for 25 Ltr. R.O. System	Ea.	3390.00	170.00	3560.00
12-6-42.	Providing & Erecting New Spun Filter and other Filter Set With Bowl.	Ea.	1526.00	128.00	1654.00
12-6-43.	Providing & Erecting Solenoid valve for 25 Ltr. R.O. System	Ea.	678.00	34.00	712.00
12-6-44.	Repairing and servicing labour charges for 25 Ltr. R.O. System	Ea.	0.00	424.00	424.00
12-6-45.	Providing Power Supply Adaptor for 25 Ltr. R.O. System	Ea.	678.00	9.00	687.00
12-6-46.	Providing ROW water booster pump for 50 Ltr. R.O. system	Ea.	3984.00	200.00	4184.00
12-6-47.	Providing Membranes for 50 Ltr. R.O. System	Ea.	3560.00	178.00	3738.00
12-6-48.	Providing & Erecting New Spun Filter and other Filter Set With Bowl.	Ea.	1695.00	136.00	1831.00

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
12-6-49.	Providing & Erecting Solenoid valve for 50 Ltr. R.O. System	Ea.	721.00	37.00	758.00
12-6-50.	Providing & Erecting new water level Sensor for 50 Ltr. R.O. System	Ea.	728.00	128.00	856.00
12-6-51.	Providing & Erecting Hardware Material (elbow , pipe etc.) for 50 Ltr. R.O. System	Ea.	0.00	214.00	214.00
12-6-52.	Repairing and servicing labour charges for 50 Ltr. R.O. System	Ea.	0.00	257.00	257.00
12-6-53.	Providing Power Supply Adaptor for 50 Ltr. R.O. System	Ea.	763.00	9.00	772.00
12-6-54.	Providing Membrane 40 x 40 size for 100 to 250 Ltr. Industrial R.O. Plant	Ea.	8306.00	3560.00	11866.00
12-6-55.	Providing Row Water Pump of 0.5 H.P. operating on 230V A.C. ,50 Hz supply & Putting the same in working condition for 100 to 250 Ltr. Industrial R.O. Plant	Ea.	742.00	318.00	1060.00
12-6-56.	Providing Vessel Service , Sand & Carbom media and multi port valve multimedia material for 100 to 250 Ltr. Industrial R.O. Plant	Job.	3827.00	1640.00	5467.00
12-6-57.	Providing Erecting auto R.O. work new panel board for 100 to 250 Ltr. Industrial R.O. Plant	Job.	3678.00	1577.00	5255.00
12-6-58.	Repairing high pressure pump upto 1 H.P. operating on 230V A.C. ,50 Hz supply,winding & Bearing100 to 250 Ltr. Industrial R.O. Plant	Job.	0.00	4619.00	4619.00
12-6-59.	Repairing solenoid valve and replacing coil 100 to 250 Ltr. Industrial R.O. Plant	Job.	0.00	695.00	695.00
12-6-60.	Providing and Erecting 20" wound and spun Cartridge 100 to 250 Ltr. Industrial R.O. Plant	Job.	505.00	217.00	722.00
12-6-61.	Providing & Erecting Hardware Material (elbow , pipe , union etc.) 100 to 250 Ltr. Industrial R.O. Plant	Job.	0.00	1823.00	1823.00
12-6-62.	Repairing and servicing labour charges for 50 Ltr. R.O. System	Job.	0.00	3424.00	3424.00
12-6-63.	Repairing cost of PCB Circuit of Indor Unit for Inverter Type 3 Star rating Split A.C. Machine upto 2.2 TR Capacity.	Ea.	0.00	2162.00	2162.00
12-6-64.	Repairing cost of PCB Circuit of Outdoor Unit for Inverter Type 3 Star rating Split A.C. Machine upto 2.2 TR Capacity.	Ea.	0.00	4196.00	4196.00
12-6-65.	Repairing cost of PCB Circuit of Indor Unit for Inverter Type 5 Star rating Split A.C. Machine upto 2.2 TR Capacity.	Ea.	0.00	3314.00	3314.00
12-6-66.	Repairing cost of PCB Circuit of Outdoor Unit for Inverter Type 5 Star rating Split A.C. Machine upto 2.2 TR Capacity.	Ea.	0.00	6433.00	6433.00
12-6-67.	Replacing old & unserviceable heating element of 1.5 KW / 2 KW / 3KW for water heaters				
	(A) Spherhot make	Ea.	424.00	43.00	467.00
	(B) Crompton make	Ea.	297.00	43.00	340.00
	(C) Any other Approved make	Ea.	212.00	43.00	255.00
12-6-68.	Replacing old & unserviceable thermostat range 30 ⁰ C to 90 ⁰ C adjustable suitable for water heaters.	Ea.	178.00	43.00	221.00
12-6-69.	Removing, inner tank for leak stopping, brazing the inner tank, leak testing by pressure, complete refitting with servicing and descaling for				
	(A) up to 25 Ltr. copper tank	Ea.	365.00	60.00	425.00
	(B)35/50 Ltr copper tank	Ea.	424.00	60.00	484.00
12-6-70.	Painting of storage / instantaneous water heater by scrapping old paint and applying 2 coats of enamel paint				
	(A) Up to 25 Ltr. Capacity	Ea.	68.00	60.00	128.00
	(B) 35/50 Ltr. capacity	Ea.	128.00	60.00	188.00
12-6-71.	Replacing old & rusted M.S. base plate of water heater suitable for				
	(A) Up to 25 Ltr. Capacity	Ea.	297.00	60.00	357.00
	(B) 35/50 Ltr. capacity	Ea.	339.00	60.00	399.00

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
12-6-72.	Replacing old & unserviceable pressure release valve by new one	Ea.	365.00	34.00	399.00
SECTION 12-7					
	Note:-				
	(1) The All inclusive comprehensive maintenance cost covers the yearly maintenance cost of the electrical machineries with material & Labour cost including preventive maintenance. The cost covers entire installation from outlet of main switch to electrical machine..				
	(2) In case of Monoblock & Openwell pump sets following item covers cost of necessary plumbing works, repairs of foundations etc.				
	(3) All inclusive comprehensive maintenance cost of Window type / Split type Air conditioners & Water coolers covers the yearly maintenance & preventive maintenance with all required painting materials & labours. including sheet metal work, refrigerant gas , compressor & all the contains parts. The cost covers entire installation from outlet of main switch to the Unit.				
	(4) For A.M.C. of electrical installation Yearly rates not covered in following items. For such items rate shall be derived considering the current S.O.R. cost as capital cost & A.M.C. yearly rate shall be derived at 5 % Cost for estimation purpose only.				
12-7-1.	All inclusive comprehensive maintenance cost for the period of one year for the Mono block Pump sets & Starter/Starter Panel & wiring & Cables of following HP Capacity				
	(A) 1 HP & 1.5 HP Single/Three Phase	Ea.	0.00	1221.00	1221.00
	(B) 3 HP	Ea.	0.00	1628.00	1628.00
	(C) 5 HP	Ea.	0.00	2136.00	2136.00
	(D) 7.5 HP	Ea.	0.00	2746.00	2746.00
	(E) 10 HP /12.5 HP	Ea.	0.00	4577.00	4577.00
	(F) 15 HP	Ea.	0.00	6102.00	6102.00
	(G) 20 HP	Ea.	0.00	7323.00	7323.00
12-7-2.	All inclusive comprehensive maintenance cost for the period of one year for the Open Well Mono Pump sets & Starter/Starter Panel wiring & Cables of following HP Capacity				
	(A) 1 HP & 1.5 HP Single/Three Phase	Ea.	0.00	2034.00	2034.00
	(B) 3 HP	Ea.	0.00	2645.00	2645.00
	(C) 5 HP	Ea.	0.00	3560.00	3560.00
	(D) 7.5 HP	Ea.	0.00	4780.00	4780.00
	(E) 10 HP /12.5 HP	Ea.	0.00	6102.00	6102.00
	(F) 15 HP	Ea.	0.00	7628.00	7628.00
	(G) 20 HP	Ea.	0.00	8645.00	8645.00
	(H) 25 HP	Ea.	0.00	11187.00	11187.00
12-7-3.	All inclusive comprehensive maintenance cost for the period of one year for the Submersible motor Pump sets & Starter/Starter Panel, Column Pipes, wiring & Cables of following HP Capacity				
	(A) 5 HP	Ea.	0.00	7119.00	7119.00
	(B) 7.5 HP	Ea.	0.00	8645.00	8645.00
	(C) 10 HP /12.5 HP	Ea.	0.00	11696.00	11696.00
	(D) 15 HP	Ea.	0.00	13730.00	13730.00
	(E) 20 HP	Ea.	0.00	15764.00	15764.00
	(F) 25 HP	Ea.	0.00	17798.00	17798.00
	(G) 30 HP	Ea.	0.00	21357.00	21357.00
	(H) 35 HP	Ea.	0.00	23900.00	23900.00
	(I) 40 HP	Ea.	0.00	25425.00	25425.00
	(J) 45/46 HP	Ea.	0.00	28476.00	28476.00
	(K) 50/55 Hp	Ea.	0.00	30002.00	30002.00
	(L) 60 HP	Ea.	0.00	30510.00	30510.00

SECTION 12-1 / REPAIRING OF MONO BLOCK PUMP MOTORS					
12-7-4.	All inclusive comprehensive maintenance cost for the period of one year for the Window type Air-conditioning machine of following Capacity				
	(A) 1.0 to 1.5 ton capacity				
	(1) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	1170.00	1170.00
	(2) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	137.00	137.00
	(3) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	254.00	254.00
	(4) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	137.00	137.00
	(5) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	254.00	254.00
	(B) 2.0 ton capacity				
	(1) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	1424.00	1424.00
	(2) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	167.00	167.00
	(3) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	309.00	309.00
	(4) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	167.00	167.00
	(5) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	309.00	309.00
12-7-5.	All inclusive comprehensive maintenance cost for the period of one year for the Split type Air-conditioning Unit of following Capacity				
	(A) 1.0 ton capacity				
	(1) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	1195.00	1195.00
	(2) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	140.00	140.00
	(3) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	259.00	259.00
	(4) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	140.00	140.00
	(5) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	259.00	259.00
	(B) 1.5 ton capacity				
	(1) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	1221.00	1221.00

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	(2) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	143.00	143.00
	(3) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	265.00	265.00
	(4) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	143.00	143.00
	(5) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	265.00	265.00
	(C) 2.0 ton capacity				
	(1) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	1450.00	1450.00
	(2) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	170.00	170.00
	(3) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	314.00	314.00
	(4) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	170.00	170.00
	(5) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	314.00	314.00
	(D) 3.0 ton capacity				
	(1) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	2289.00	2289.00
	(2) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	267.00	267.00
	(3) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	496.00	496.00
	(4) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	267.00	267.00
	(5) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	496.00	496.00
12-7-6.	All inclusive comprehensive maintenance cost for the period of one year for the Inverter Based Split type Air-conditioning Unit of following Capacity (B) 1.5 ton capacity.				
	(A) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	2260.00	2260.00
	(B) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	265.00	265.00
	(C) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	490.00	490.00
	(D) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	265.00	265.00

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	(E) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	490.00	490.00
	All inclusive comprehensive maintenance cost for the period of one year for the Inverter Based Split type Air-conditioning Unit of following Capacity (C) 1.7 to 2.0 ton capacity.				
	(A) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	2801.00	2801.00
	(B) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	327.00	327.00
	(C) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	606.00	606.00
	(D) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	327.00	327.00
	(E) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	606.00	606.00
12-7-7.	All inclusive comprehensive maintenance cost for the period of one year for the water Cooler of following Capacity				
	(A) 80 Ltr capacity	Ea.	0.00	2628.00	2628.00
	(B) 120 / 150 Ltr capacity	Ea.	0.00	3306.00	3306.00
12-7-8.	All inclusive comprehensive maintenance cost for the period of one year for the water Heater(Geysers) inclusive inlet & outlet water connections flexible piping of following Type & Capacity				
	(A) 3 to 10 Ltr Instant /Storage Type	Ea.	0.00	605.00	605.00
	(B) 15 to 25 Ltr Storage Type	Ea.	0.00	687.00	687.00
	(C) 30 to 50 Ltr Storage Type	Ea.	0.00	827.00	827.00
12-7-9.	All inclusive comprehensive maintenance cost for the period of one year for ceiling fan inclusive cost of to and fro transportation & inclusive of dismantling & re-erecting on the proper location. Dismantled material to be retained by agency.	Ea.	0.00	136.00	136.00
12-7-10.	All inclusive comprehensive maintenance cost for the period of one year for Exhaust fan, Bracket fan, Pedestal fan inclusive cost of to and fro transportation & inclusive of dismantling & re-erecting on the proper location. Dismantled material to be retained by agency	Ea.	0.00	251.00	251.00
12-7-11.	All inclusive comprehensive maintenance cost for the period of one year for the Cassette type split Air-conditioning Unit of following Capacity				
	(A) 1.0 ton capacity	Ea.			
	(A) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	1862.00	1862.00
	(B) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	217.00	217.00
	(C) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	405.00	405.00
	(D) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	217.00	217.00

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	(E) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	405.00	405.00
	(B) 1.5 ton capacity				
	(A) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	2518.00	2518.00
	(B) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	294.00	294.00
	(C) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	546.00	546.00
	(D) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	294.00	294.00
	(E) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	546.00	546.00
	(C) 2.0 ton capacity				
	(A) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	3153.00	3153.00
	(B) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	368.00	368.00
	(C) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	684.00	684.00
	(D) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	368.00	368.00
	(E) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	684.00	684.00
	(E) 3.0 ton capacity - 3 Phase				
	(A) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	4811.00	4811.00
	(B) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	562.00	562.00
	(C) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	1043.00	1043.00
	(D) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	562.00	562.00
	(E) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	1043.00	1043.00
12-7-12.	All inclusive comprehensive maintenance cost for the period of one year for the Inverter Based Cassette type split Air-conditioning Unit of following Capacity (A) 1.5 ton capacity				
	(A) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	3738.00	3738.00

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	(B) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	437.00	437.00
	(C) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	810.00	810.00
	(D) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	437.00	437.00
	(E) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	810.00	810.00
	All inclusive comprehensive maintenance cost for the period of one year for the Inverter Based Cassette type split Air-conditioning Unit of following Capacity (B) 2.0 ton capacity				
	(A) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	4391.00	4391.00
	(B) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	513.00	513.00
	(C) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	951.00	951.00
	(D) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	513.00	513.00
	(E) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	951.00	951.00
	All inclusive comprehensive maintenance cost for the period of one year for the Inverter Based Cassette type split Air-conditioning Unit of following Capacity (C) for 3.0 ton capacity 3 Phase				
	(A) Charges for breakdown Maintenance as per requirement throughout the year	Ea.	0.00	7165.00	7165.00
	(B) Charges for 1st Routine Maintenance of Dry Services between date of commencement to 3rd Months from date of issue of work order.	Ea.	0.00	836.00	836.00
	(C) Charges for 2nd Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 3rd months to 6th Months from date of issue of work order.	Ea.	0.00	1553.00	1553.00
	(D) Charges for 3rd Routine Maintenance of Dry Services between 6th months to 9th Months from date of issue of work order.	Ea.	0.00	836.00	836.00
	(E) Charges for 4th Routine Maintenance of wet Services with water or Chemical as per site requirement Services between 9th months to 12th Months from date of issue of work order.	Ea.	0.00	1553.00	1553.00

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SECTION 12-8 Dismantling					
12-8-1	Dismantling the existing light, fan, bell, , independent plug point, wiring with mains of all types along with accessories etc. complete and handed over to dept.	Point	0.00	1.00	1.00
12-8-2	Refilling the holes for dismantled point with cable with cement mortar & finishing in an approved manner.	Point	3.00	6.00	9.00
12-8-3	Dismantling the existing cables of all types & sizes	Mtr	0.00	6.00	6.00
12-8-4	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 to be placed at different store.	Mtr	0.00	10.00	10.00
12-8-5	Re-erecting PVC armoured cable 2 to 4 core up to 50 sq.mm on wall / pipe with necessary material & G.I. earth wire in an approved manner.	Mtr	0.00	7.00	7.00
12-8-6	Dismantling the existing switchgears, DB and Busbar of any size complete with / without board or angle iron frame.	Ea	0.00	7.00	7.00
12-8-7	Dismantling existing DO / AB switch set complete on D.P. structure in an approved manner.	Set	0.00	94.00	94.00
12-8-8	Dismantling existing OCB, ACB complete from existing panel board in an approved manner. Note:- Dismantled switchgears breakers to be handed to the Section In charge.	Ea.	0.00	38.00	38.00
12-8-9	Dismantling existing lightening arrestor set, insulator complete from DP structure in approved manner.	Set	0.00	24.00	24.00
12-8-10	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.	Ea.	0.00	9.00	9.00
12-8-11	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.	Ea.	0.00	183.00	183.00
12-8-12	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.	Ea.	0.00	212.00	212.00
12-8-13	Dismantling the existing any type of indoor light fittings	Ea.	0.00	5.00	5.00
12-8-14	Dismantling the existing any type of street light fittings on pole up to 6 mt height with bracket and making the site as original complete.	Ea.	0.00	13.00	13.00
12-8-15	Dismantling the existing any type of fittings above 6 mt height pole from pole with bracket complete.	Ea.	0.00	26.00	26.00
12-8-16	Dismantling the existing electric geyser or storage type water heater of any size along with plumbing connection and making the site clear.	Ea.	0.00	22.00	22.00
12-8-17	Dismantling the existing Distribution Transformer / D.G. Set of any capacity from the plinth / foundation safely without any damages and storing it in safe place.	KVA	0.00	9.00	9.00
12-8-18	Dismantling existing pole mounted Distribution Transformer safely without any damages and storing it in safe place.	KVA	0.00	13.00	13.00
12-8-19	Dismantling the existing window type air conditioner of any type and capacity safely without any damages and making the site clear.	Ea.	0.00	128.00	128.00

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12-8-20	Dismantling the existing split type air conditioner of any type and capacity safely without any damages and making the site clear.	Ea.	0.00	280.00	280.00
Note:- The rates for item No 12-8-3 to 12-8-19 are inclusive of transportation from site to section office.					

CHAPTER - XIII LIFTS

	Note:-
	(a) General Features & Special Features of the all lift items shall be taken as below.
	(b) for Handicap Lifts, Minimum 10 Passengers Lift Capacity shall be considered.same is to be informed to architect /civil authority to keep necessary size of lift well.
	(c) The lifts of 15/ 16 and above passenger capacity shall be taken for Hospital Lifts; Where in Description " Stretcher Lifts" shall be mentioned.
	(d) The Rates of the following items are for the lift of Machine room less. For Machine room Lifts, rate for Rs. 1,50,000/- shall be deducted in Total Cost for the Lifts from 4 to 13 Passenger Lift. Rs. 2,00,000/- shall be deducted in Total Cost for the Lifts 15 and above passenger capacity as extra cost.
	(e) Add Rs. 80,000/- for the DUPLEX control for the lifts up to 10 floors and add Rs. 10,000/- for additional each floor above 10 floors.
	(A) GENERAL DESCRIPTION OF LIFTS.
	[1] GEAR LESS LIFT DRIVE (MRL) comprising of High Starting torque Lift 3 phase 440 V A. C. Permanent Magnet Synchronous motor of proper rating with high efficiency shall be used.[2] Micro processor based / PLC, ACVVVF, vector control drive with encoder feedback closed loop system shall be used for lift car and door operation which shall be full collective selective operation hall call demand response, UP/DOWN hall stops, Main, Up/ Down Contactor with overload and phase reversal relay and safety controls.
	[3] Car with M S platform with bracings of adequate size and to sustain the impact load cabin + passenger with safety factor of fire for steel and side panels of Stainless steel of sheet of grade 304 duty. Car ceiling will be S.S. finishes with aesthetic appearance with LED ceiling lights. Car flooring shall be of s/s 304 chaker plate design sугeested of engineer in charge. of engineer in charge. Car doors shall be of stainless steel grade 304, hairline finish with centre opening / telescopic automatic doors. Car panel will also be S.S. 304 finished with emergency stop device, mechanical door safety device, facility of auto/ attended mode. All car panel buttons and all floor switches must be with brail language as per lift act.
	[4] All landing doors must be fire rated for 2 hour shall be fully automatic centre opening/ telescopic opening made of hairline finish steel grade of 304 with key holes and infrared curtains with Unlocking facility from outside [5] Appropriate battery operated emergency light in the car along with alarm switch shall be provided. Also, Emergency Light & Fan should start immediately without any Time Delay as soon as power fails. [6] Digital scrolling indicator system for up-down arrow along with floor position indicator shall be provided inside the car and at all floors. [7] Full height infra red curtain with multiple cross / crossing light beams shall be provided. [8] Automatic Rescue Device (ARD) shall be provided accordingly of passenger capacity with Manual Rescue Operation (Manual Cranking Facility). [9] Audio visual indication in the lift car showing over loading shall be provided such that doors kept open till excess load is removed.
	[10] Spring buffers/PU Buffers shall be provided. [11] Car fan as per passenger capacity with automatic sleep timer shall be provided. [12] Voice annunciator with suitable music shall be provided in lift car. [13] Self diagnostics system for operational and safety parameters shall be provided in control panel. [14] Mechanical over speed governor with governor calibration as per actual site parameters and submission of calibration certificate submission, door key holes in the floor doors, fireman switch shall be provided. [15] Lift machine hoisting arrangement in the lift machine room and monkey ladder for lift pit should be provided by the lift agency, along with the other steel structure works, foundations for the machine etc.. [16] In the hoist way fascia plate shall be provided without any extra cost, where ever required as / if directed by engineer in charge.
	[17] Permanent wiring with necessary safety devices like RCCB in all circuit, Over Voltage Under Voltage protection and THD eliminator in circuit for lift machine room and lift well with proper numbers of light points, with fixtures, exhaust fan and plug points shall be provided by the agency. Only 3 phase Power Supply shall be made available by department in lift machine room. Necessary Earthing as per Lift Act/Rules shall be arranged by Lift Agency. [18] Any civil/ electrical works for additional and alteration in lift shaft and machine room related to erection of lift shall be made by lift agency without any extra cost. (granite/marble fixing around all landing door openings are not in lift agency's scope.) [19] Agency has to provide all working drawings and documents and liaison services for obtaining all necessary permission from lift inspector and other authorities. [20] acrylic transparent licence/display A4 size holder in lift car

	[20A] As per statutory requirement of Govt. Of Gujarat lift & escalator act 2000, lift agency has to provide 1. Car top safety barricade 2. Push & talk communication system. 3. Fireman's switch operation at Ground Floor. 4. carrying out third party lift inspection during/after lift erection and provide report by third party authorized by concern licensing authority 5. agency has to provide third party insurance upto completion of free maintenance period and submit the document for the same.				
	[21] Car Panel Operating Buttons with floor position indicator/buttons must be of Auto Glow type clearly visible when view from inside cabin. [22] For Physically Handicapped person Full Length Handrails of hairline finish steel grade of 304 should be provided at appropriate height on the Rear & Side Wall Panels in Lift Car. [23] With Necessary KVA rating voltage controlled Stabilizer suitable for your controller, drive and all equipments of lift. [24] Necessary rating of DP Elcb and FP Elcb required for lift is in scope of work which rating is suggested by CEICED Department (electrical Inspector)				
	(B) SPECIAL FEATURES DESCRIPTION OF LIFTS for PREMIUM category				
	1. Advanced control system dual 64 bit embedded microprocessor with CANBUS Serial Communication mode including Regenerative power efficient operation, on site programming facility, Anti nuisance, Pte-opening, BMS/RMS with necessary online real time monitoring system having necessary connectivity for remote monitoring & other suitable supporting hardware & software devices to fulfil the purpose.				
	2. Floor Indication LCD Display with call registration & brail mark with arrival gong and hall lantern & TFT Screen in the car with MP3 Voice Announcer.				
	3. CAR Panel should be Scratch resistive SS Moonrock finish / Hair Line / Honeycomb for car and all Doors, All landing doors must have fire rating up to 2 hours and car door must have multi-level crisscross beam door protection.				
	4. To & fro communication system & wiring (i.e. car , control room & guard room) and Each elevator are equipped with remote monitoring system. agency has to provide mobile app and user id and password for monitoring				
Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
13-1	DESCRIPTION OF LIFT :				
Item No	Supplying, Erecting, Testing & Commissioning the passenger / stretcher lift having following main features:				
13-1-A	4/5/6 Passengers, Ground plus 1 upper floor with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	674017.00	177382.00	851399.00
	(B) With General Specification attached herewith. Cat.III	Ea.	761933.00	200519.00	962452.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	899078.00	236612.00	1135690.00
13-1-B	4/5/6 Passengers, Ground plus 2 upper floors with Rated Speed of 1.0 m/sec.				
	(A) With General Specification attached herewith. Cat.II	Ea.	725865.00	191027.00	916892.00
	(B) With General Specification attached herewith. Cat.III	Ea.	820543.00	215943.00	1036486.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	968243.00	254813.00	1223056.00
13-1-C	4/5/6 Passengers, Ground plus 3 upper floors with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	774009.00	203697.00	977706.00
	(B) With General Specification attached herewith. Cat.III	Ea.	874967.00	230266.00	1105233.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1032462.00	271714.00	1304176.00
13-1-D	4/5/6 Passengers, Ground plus 4 upper floors with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	818450.00	215393.00	1033843.00
	(B) With General Specification attached herewith. Cat.III	Ea.	925204.00	243487.00	1168691.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1091743.00	287315.00	1379058.00
13-1-E	4/5/6 Passengers, Ground plus 5 upper floors with Rated Speed of 1.0 m/sec.,				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(A) With General Specification attached herewith. Cat.II	Ea.	870297.00	229037.00	1099334.00
	(B) With General Specification attached herewith. Cat.III	Ea.	983814.00	258912.00	1242726.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1160899.00	305516.00	1466415.00
13-1-F	4/5/6 Passengers, Ground plus 6 upper floors with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	918441.00	241707.00	1160148.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1038238.00	273234.00	1311472.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1225122.00	322417.00	1547539.00
13-1-G	4/5/6 Passengers, Ground plus 6 upper floors with Rated Speed of 1.5 / 1.75 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1055467.00	277769.00	1333236.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1193136.00	313999.00	1507135.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1407899.00	370519.00	1778418.00
13-1-H	4/5/6 Passengers, Ground plus 7 upper floors with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	966585.00	254378.00	1220963.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1092662.00	287557.00	1380219.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1289340.00	339317.00	1628657.00
13-1-I	4/5/6 Passengers, Ground plus 7 upper floors with Rated Speed of 1.5 / 1.75 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1111017.00	292388.00	1403405.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1255933.00	330525.00	1586458.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1482000.00	390020.00	1872020.00
13-1-J	4/5/6 Passengers, Ground plus 8 upper floors with Rated Speed of 1.0 / 1.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1018433.00	268022.00	1286455.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1151272.00	302982.00	1454254.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1358500.00	357518.00	1716018.00
13-1-K	4/5/6 Passengers, Ground plus 8 upper floors with Rated Speed of 1.75 / 2.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1166568.00	307007.00	1473575.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1318729.00	347052.00	1665781.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1835594.00	355950.00	2191544.00
13-1-L	4/5/6 Passengers, Ground plus 9 upper floors with Rated Speed of 1.0 / 1.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1073984.00	282642.00	1356626.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1214068.00	319508.00	1533576.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1432602.00	377019.00	1809621.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
13-1-M	4/5/6 Passengers, Ground plus 9 upper floors with Rated Speed of 1.75 / 2.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1222119.00	321627.00	1543746.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1381526.00	363578.00	1745104.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1630195.00	429022.00	2059217.00
13-1-N	4/5/6 Passengers, Ground plus 10 upper floors with Rated Speed of 1.5 / 1.75 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1272678.00	334932.00	1607610.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1501762.00	395220.00	1896982.00
13-1-O	4/5/6 Passengers, Ground plus 10 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1444323.00	380104.00	1824427.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1704297.00	448523.00	2152820.00
13-1-P	4/5/6 Passengers, Ground plus 11 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1507119.00	396630.00	1903749.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1778399.00	468024.00	2246423.00
13-1-Pa	4/5/6 Passengers, Ground plus 12 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1587628.00	396630.00	1984258.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1879034.00	468024.00	2347058.00
13-1-Pb	4/5/6 Passengers, Ground plus 13 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1668136.00	396630.00	2064766.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1979670.00	468024.00	2447694.00
13-1-Pc	4/5/6 Passengers, Ground plus 14 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1748645.00	396630.00	2145275.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2080306.00	468024.00	2548330.00
13-1-Pd	4/5/6 Passengers, Ground plus 15 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1829153.00	396630.00	2225783.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2180941.00	468024.00	2648965.00
13-1-Pe	4/5/6 Passengers, Ground plus 16 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1909662.00	396630.00	2306292.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2281577.00	468024.00	2749601.00
13-1-Q	8 / 10 Passengers, Ground plus 1 upper floor with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	799933.00	210519.00	1010452.00
	(B) With General Specification attached herewith. Cat.III	Ea.	904272.00	237978.00	1142250.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1067039.00	280815.00	1347854.00
13-1-R	8 / 10 Passengers, Ground plus 2 upper floor with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	866594.00	228063.00	1094657.00
	(B) With General Specification attached herewith. Cat.III	Ea.	979628.00	257810.00	1237438.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1155962.00	304216.00	1460178.00
13-1-S	8 / 10 Passengers, Ground plus 3 upper floor with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	925848.00	243657.00	1169505.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1046611.00	275438.00	1322049.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1235000.00	325017.00	1560017.00
13-1-T	8 / 10 Passengers, Ground plus 4 upper floor with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	985102.00	259251.00	1244353.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1113594.00	293066.00	1406660.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1314039.00	345818.00	1659857.00
13-1-U	8 / 10 Passengers, Ground plus 5 upper floor with Rated Speed of 1.0 / 1.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1044356.00	274845.00	1319201.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1180577.00	310694.00	1491271.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1393078.00	366619.00	1759697.00
13-1-V	8 / 10 Passengers, Ground plus 6 upper floor with Rated Speed of 1.0 / 1.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1103611.00	290439.00	1394050.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1247560.00	328322.00	1575882.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1472122.00	387420.00	1859542.00
13-1-W	8 / 10 Passengers, Ground plus 6 upper floor with Rated Speed of 1.75 / 2.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1181382.00	310906.00	1492288.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1335475.00	351459.00	1686934.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1575860.00	414721.00	1990581.00
13-1-X	8 / 10 Passengers, Ground plus 7 upper floor with Rated Speed of 1.0 / 1.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1162865.00	306033.00	1468898.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1314543.00	345950.00	1660493.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1551161.00	408221.00	1959382.00
13-1-Y	8 / 10 Passengers, Ground plus 7 upper floor with Rated Speed of 1.75/ 2.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1240636.00	326500.00	1567136.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1402458.00	369087.00	1771545.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1654899.00	435522.00	2090421.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
13-1-Z	8 / 10 Passengers, Ground plus 8 upper floor with Rated Speed of 1.5 / 1.75 / 2.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1299890.00	342094.00	1641984.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1469441.00	386715.00	1856156.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1733938.00	456323.00	2190261.00
13-1-AA	8 / 10 Passengers, Ground plus 9 upper floor with Rated Speed of 1.5 / 1.75 / 2.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1359145.00	357688.00	1716833.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1536424.00	404343.00	1940767.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1812981.00	477124.00	2290105.00
13-1-AB	8 / 10 Passengers, Ground plus 10 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1603407.00	421971.00	2025378.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1892021.00	497925.00	2389946.00
13-1-AC	8 / 10 Passengers, Ground plus 11 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1670390.00	439599.00	2109989.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1971063.00	518726.00	2489789.00
13-1-Aca	8 / 10 Passengers, Ground plus 12 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1758950.00	439599.00	2198549.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2071699.00	518726.00	2590425.00
13-1-Acb	8 / 10 Passengers, Ground plus 13 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1847509.00	439599.00	2287108.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2172334.00	518726.00	2691060.00
13-1-Acc	8 / 10 Passengers, Ground plus 14 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1936068.00	439599.00	2375667.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2272970.00	518726.00	2791696.00
13-1-Acd	8 / 10 Passengers, Ground plus 15 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2024628.00	439599.00	2464227.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2373606.00	518726.00	2892332.00
13-1-Ace	8 / 10 Passengers, Ground plus 16 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2113187.00	439599.00	2552786.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2474241.00	518726.00	2992967.00
13-1-AD	13 Passengers, Ground plus 1 upper floor with Rated Speed of 1.0 m/sec.,				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(A) With General Specification attached herewith. Cat.II	Ea.	933255.00	245606.00	1178861.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1054984.00	277641.00	1332625.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1244884.00	327617.00	1572501.00
13-1-AE	13 Passengers,. Ground plus 2 upper floors with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	999916.00	263149.00	1263065.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1130339.00	297473.00	1427812.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1333797.00	351018.00	1684815.00
13-1-AF	13 Passengers, Ground plus 3 upper floors with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1066577.00	280692.00	1347269.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1205695.00	317304.00	1522999.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Cat.III	Ea.	1422721.00	374419.00	1797140.00
13-1-AG	13 Passengers, Ground plus 4 upper floors with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1133238.00	298236.00	1431474.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1281051.00	337136.00	1618187.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1511641.00	397820.00	1909461.00
13-1-AH	13 Passengers,. Ground plus 5 upper floors with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1244339.00	327474.00	1571813.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1406645.00	370188.00	1776833.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1659840.00	436822.00	2096662.00
13-1-AI	13 Passengers, Ground plus 6 upper floors with Rated Speed of 1.5 / 1.75 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1314704.00	345992.00	1660696.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1486187.00	391122.00	1877309.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1753695.00	461524.00	2215219.00
13-1-AJ	13 Passengers, Ground plus 7 upper floors with Rated Speed of 1.5 / 1.75 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1385068.00	364510.00	1749578.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1565729.00	412055.00	1977784.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1847563.00	486225.00	2333788.00
13-1-AK	13 Passengers, Ground plus 8 upper floors with Rated Speed of 1.5 / 1.75 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1455433.00	383028.00	1838461.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1645272.00	432988.00	2078260.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1941423.00	510926.00	2452349.00
13-1-AL	13 Passengers, Ground plus 9 upper floors with Rated Speed of 1.75 / 2.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1525797.00	401546.00	1927343.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1724814.00	453921.00	2178735.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2035282.00	535627.00	2570909.00
13-1-AM	13 Passengers, Ground plus 10 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1804356.00	474855.00	2279211.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2129141.00	560329.00	2689470.00
13-1-AN	13 Passengers, Ground plus 11 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1883899.00	495788.00	2379687.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2223000.00	585030.00	2808030.00
13-1-Ana	13 Passengers, Ground plus 12 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	1984534.00	495788.00	2480322.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2343361.00	585030.00	2928391.00
13-1-Anb	13 Passengers, Ground plus 13 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2085170.00	495788.00	2580958.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2464123.00	585030.00	3049153.00
13-1-Anc	13Passengers, Ground plus 14 upper floors with Rated Speed of 2.0 /2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2185806.00	495788.00	2681594.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2584886.00	585030.00	3169916.00
13-1-And	13 Passengers, Ground plus 15 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2286441.00	495788.00	2782229.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2705649.00	585030.00	3290679.00
13-1-Ane	13 Passengers, Ground plus 16 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2387077.00	495788.00	2882865.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2826412.00	585030.00	3411442.00
13-1-AO	15/16 Passengers, Ground plus 1 upper floor with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1040653.00	273870.00	1314523.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1176390.00	309592.00	1485982.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1388141.00	365319.00	1753460.00
13-1-AP	15/16 Passengers, Ground plus 2 upper floor with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1118424.00	294337.00	1412761.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1264306.00	332729.00	1597035.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1491884.00	392620.00	1884504.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
13-1-AQ	15/16 Passengers, Ground plus 3 upper floor with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1188789.00	312855.00	1501644.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1343848.00	353662.00	1697510.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1585743.00	417321.00	2003064.00
13-1-AR	15/16 Passengers, Ground plus 4 upper floor with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1266560.00	333322.00	1599882.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1431763.00	376799.00	1808562.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1689481.00	444623.00	2134104.00
13-1-AS	15/16 Passengers, Ground plus 5 upper floor with Rated Speed of 1.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1340628.00	352815.00	1693443.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1515492.00	398834.00	1914326.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1788280.00	470624.00	2258904.00
13-1-AT	15/16 Passengers, Ground plus 6 upper floors with Rated Speed of 1.5 /1.75 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1503577.00	395698.00	1899275.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1699695.00	447311.00	2147006.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2005641.00	527827.00	2533468.00
13-1-AU	15/16 Passengers, Ground plus 7 upper floors with Rated Speed of 1.5 /1.75 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1585051.00	417140.00	2002191.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1791797.00	471549.00	2263346.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2114321.00	556428.00	2670749.00
13-1-AV	15/16 Passengers,. Ground plus 8 upper floors with Rated Speed of 1.5 /1.75 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1666526.00	438582.00	2105108.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1883899.00	495788.00	2379687.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2223000.00	585030.00	2808030.00
13-1-AW	15/16 Passengers, Ground plus 9 upper floors with Rated Speed of 1.75 / 2.0 m/sec.,				
	(A) With General Specification attached herewith. Cat.II	Ea.	1744297.00	459049.00	2203346.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1971814.00	518925.00	2490739.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2326743.00	612331.00	2939074.00
13-1-AX	15/16 Passengers, Ground plus 10 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2059729.00	542061.00	2601790.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2430481.00	639632.00	3070113.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
13-1-AY	15/16 Passengers, Ground plus 11 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2147645.00	565198.00	2712843.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2534221.00	666934.00	3201155.00
13-1-Aya	15/16 Passengers, Ground plus 12 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2260356.00	565198.00	2825554.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2667062.00	666934.00	3333996.00
13-1-Ayb	15/16 Passengers, Ground plus 13 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2373068.00	565198.00	2938266.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2799899.00	666932.00	3466831.00
13-1-Ayc	15/16 Passengers, Ground plus 14 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2485780.00	565198.00	3050978.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2932740.00	666934.00	3599674.00
13-1-Ayd	15/16 Passengers, Ground plus 15 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2598492.00	565198.00	3163690.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	3065577.00	666932.00	3732509.00
13-1-Aye	15/16 Passengers, Ground plus 16 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2711204.00	565198.00	3276402.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	3198418.00	666934.00	3865352.00
13-1-AZ	20 passengers . Ground plus 1 upper floors with Rated Speed of 1 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1107314.00	291413.00	1398727.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1251746.00	329424.00	1581170.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1477063.00	388720.00	1865783.00
13-1-BA	20 passengers . Ground plus 2 upper floors with Rated Speed of 1 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1177678.00	309931.00	1487609.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1331289.00	350357.00	1681646.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1570923.00	413421.00	1984344.00
13-1-BB	20 passengers . Ground plus 3 upper floors with Rated Speed of 1.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1248043.00	328449.00	1576492.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1410831.00	371290.00	1782121.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1664782.00	438122.00	2102904.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
13-1-BC	20 passengers . Ground plus 4 upper floors with Rated Speed of 1.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1318407.00	346967.00	1665374.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1490373.00	392223.00	1882596.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1758641.00	462824.00	2221465.00
13-1-BD	20 passengers . Ground plus 5 upper floors with Rated Speed of 1.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1388772.00	365485.00	1754257.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1569916.00	413157.00	1983073.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1852500.00	487525.00	2340025.00
13-1-BE	20 passengers . Ground plus 6 upper floors with Rated Speed of 1.5/1.75 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1529500.00	402521.00	1932021.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1729000.00	455023.00	2184023.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2040228.00	536927.00	2577155.00
13-1-BF	20 passengers . Ground plus 7 upper floors with Rated Speed of 1.5 /1.75 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1607272.00	422988.00	2030260.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1816916.00	478160.00	2295076.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2143962.00	564229.00	2708191.00
13-1-BG	20 passengers . Ground plus 8 upper floors with Rated Speed of 1.5 / 1.75 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1685043.00	443455.00	2128498.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1904831.00	501297.00	2406128.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2247704.00	591530.00	2839234.00
13-1-BH	20 passengers . Ground plus 9 upper floors with Rated Speed of 1.75 / 2.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1762814.00	463922.00	2226736.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1992746.00	524433.00	2517179.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2351438.00	618831.00	2970269.00
13-1-BI	20 passengers . Ground plus 10 upper floors with Rated Speed of 2.0 /2.5 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.III	Ea.	2080662.00	547570.00	2628232.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2455180.00	646133.00	3101313.00
13-1-BJ	20 passengers . Ground plus 11 upper floors with Rated Speed of 2.0 / 2.5 m/sec with micro price/PLC control and ACVVVF. drive				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(A) With General Specification attached herewith. Cat.III	Ea.	2168577.00	570707.00	2739284.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2558923.00	673434.00	3232357.00
13-1-Bja	20 passengers . Ground plus 12 upper floors with Rated Speed of 2.0 / 2.5 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.III	Ea.	2281289.00	570707.00	2851996.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2691762.00	673434.00	3365196.00
13-1-Bjb	20 passengers . Ground plus 13 upper floors with Rated Speed of 2.0 / 2.5 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.III	Ea.	2394000.00	570707.00	2964707.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2824600.00	673434.00	3498034.00
13-1-Bbc	20 Passengers, Ground plus 14 upper floors with Rated Speed of 2.0 /2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2506712.00	570707.00	3077419.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2957439.00	673434.00	3630873.00
13-1-Bbd	20 Passengers, Ground plus 15 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2619424.00	570707.00	3190131.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	3090278.00	673434.00	3763712.00
13-1-Bbe	20 Passengers, Ground plus 16 upper floors with Rated Speed of 2.0 / 2.5 m/sec.,				
	(A) With General Specification attached herewith. Cat.III	Ea.	2732136.00	570707.00	3302843.00
	(B) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	3223117.00	673434.00	3896551.00
13-1-BK	26 passengers . Ground plus 1 upper floors with Rated Speed of 1.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1199899.00	315779.00	1515678.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1356407.00	356967.00	1713374.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1600563.00	421222.00	2021785.00
13-1-BL	26 passengers . Ground plus 2 upper floors with Rated Speed of 1.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1352865.00	332729.00	1685594.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1517424.00	375612.00	1893036.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1777682.00	441562.00	2219244.00
13-1-BM	26 passengers . Ground plus 3 upper floors with Rated Speed of 1.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1505831.00	349679.00	1855510.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1678441.00	394257.00	2072698.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	1954800.00	461902.00	2416702.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
13-1-BN	26 passengers . Ground plus 4 upper floors with Rated Speed of 1.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1658797.00	366629.00	2025426.00
	(B) With General Specification attached herewith. Cat.III	Ea.	1839458.00	412902.00	2252360.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2131919.00	482242.00	2614161.00
13-1-BO	26 passengers . Ground plus 5 upper floors with Rated Speed of 1.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1811763.00	383579.00	2195342.00
	(B) With General Specification attached herewith. Cat.III	Ea.	2000475.00	431547.00	2432022.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2309038.00	502582.00	2811620.00
13-1-BP	26 passengers . Ground plus 5 upper floors with Rated Speed of 1.5 / 1.75 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	1964729.00	400529.00	2365258.00
	(B) With General Specification attached herewith. Cat.III	Ea.	2161492.00	450192.00	2611684.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2486156.00	522922.00	3009078.00
13-1-BQ	26 passengers . Ground plus 6 upper floors with Rated Speed of 1.5 / 1.75 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	2117695.00	417479.00	2535174.00
	(B) With General Specification attached herewith. Cat.III	Ea.	2322509.00	468837.00	2791346.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2663275.00	543262.00	3206537.00
13-1-BR	26 passengers . Ground plus 6 upper floors with Rated Speed of 1.5/1.75 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	2270662.00	434429.00	2705091.00
	(B) With General Specification attached herewith. Cat.III	Ea.	2483526.00	487482.00	2971008.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	2840394.00	563602.00	3403996.00
13-1-BS	26 passengers . Ground plus 7 upper floors with Rated Speed of 1.5 /1.75 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	2423628.00	451379.00	2875007.00
	(B) With General Specification attached herewith. Cat.III	Ea.	2644543.00	506127.00	3150670.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	3017512.00	583942.00	3601454.00
13-1-BT	26 passengers . Ground plus 8 upper floors with Rated Speed of 1.5 / 1.75 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	2576594.00	468329.00	3044923.00
	(B) With General Specification attached herewith. Cat.III	Ea.	2805560.00	524772.00	3330332.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	3194631.00	604282.00	3798913.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
13-1-BU	26 passengers . Ground plus 9 upper floors with Rated Speed of 1.5 /1.75 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	2729560.00	485279.00	3214839.00
	(B) With General Specification attached herewith. Cat.III	Ea.	2966577.00	543417.00	3509994.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	3371750.00	624622.00	3996372.00
13-1-BV	26 passengers . Ground plus 10 upper floors with Rated Speed of 1.75 / 2.0 / 2.5 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	2882526.00	502229.00	3384755.00
	(B) With General Specification attached herewith. Cat.III	Ea.	3127594.00	562062.00	3689656.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	3548868.00	644962.00	4193830.00
13-1-BW	26 passengers . Ground plus 11 upper floors with Rated Speed of 2.0 / 2.5 /3.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	3035492.00	519179.00	3554671.00
	(B) With General Specification attached herewith. Cat.III	Ea.	3288611.00	580707.00	3869318.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	3725987.00	665302.00	4391289.00
13-1-BX	26 passengers . Ground plus 12 upper floors with Rated Speed of 2.0 / 2.5 /3.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	3188458.00	536129.00	3724587.00
	(B) With General Specification attached herewith. Cat.III	Ea.	3449628.00	599352.00	4048980.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	3903106.00	685642.00	4588748.00
13-1-BY	26 passengers . Ground plus 13 upper floors with Rated Speed of 2.0 / 2.5 /3.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	3341424.00	553079.00	3894503.00
	(B) With General Specification attached herewith. Cat.III	Ea.	3610645.00	617997.00	4228642.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	4080224.00	705982.00	4786206.00
13-1-BZ	26 passengers . Ground plus 14 upper floors with Rated Speed of 2.0 / 2.5 /3.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	3494390.00	570029.00	4064419.00
	(B) With General Specification attached herewith. Cat.III	Ea.	3771662.00	636642.00	4408304.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	4257343.00	726322.00	4983665.00
13-1-BAA	26 passengers . Ground plus 15 upper floors with Rated Speed of 2.0 / 2.5 /3.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	3647356.00	586979.00	4234335.00
	(B) With General Specification attached herewith. Cat.III	Ea.	3932678.00	655287.00	4587965.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	4434462.00	746662.00	5181124.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
13-1-BAB	26 passengers . Ground plus 16 upper floors with Rated Speed of 2.0 / 2.5 /3.0 m/sec with micro price/PLC control and ACVVVF. drive				
	(A) With General Specification attached herewith. Cat.II	Ea.	3800323.00	603929.00	4404252.00
	(B) With General Specification attached herewith. Cat.III	Ea.	4093695.00	673932.00	4767627.00
	(C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Ea.	4611580.00	767002.00	5378582.00
Section 13.2 Additional facilities for lift					
13-2-1	Supplying & erecting approved make Lift Announcing solid state system in the Passenger/ Stretcher lifts having AC2/ACVV/ACVF drives & automatic doors only. The system comprising following features & facilities. (i) Announcing floor message, message to close period.(ii) Announcing 'Emergency Message' when lift is stuck between floors due to power failure or any other reason. (iii) Instrumental Music between floor announcing.(iv) Announcement in English / Hindi & Gujarati Languages.. (v) Flexible to accommodate special per-programmed message such as name of the building /office.(vi)Volume adjustment control	Ea.	14407.00	2543.00	16950.00
13-2-2	Providing & erecting approved make overload non-start feature & overload warning Indicator system in the lift with making use of sound isolated floating platform & micro switches on SI frame to get sensation of live load inside lift cage at any given moment, with provides new fixtures of overload warning inside lift cage with new relay in the existing control panel to activate 'Overload Non-Start Function with carrying out additional wiring including laying of new travelling cable, include minor civil work & without changing the existing capacity speed stops, travel & operation of the desired lift	Ea.	29662.00	2543.00	32205.00
SECTION 3 REPAIRING OF LIFTS					
13-3-1	Replacing the Old worn-out traction steel elevator wire rope of following size and capacity as per IS: 2266/1989 complete with end connections by means of C.I. bull dog clip or sling / tapered babited sockets or screwed eyebolt.				
	A. 8 x 19 seal of 13mm.Dia.Having breaking capacity of 10 Tons weighting 0.68 Kg / Mtr. Approx.	Ea.	68.00	43.00	111.00
	B. 6 x 25 seal of 16 mm.dia.Having breaking capacity of 15 Tons weighting 0.95 Kg/Mtr. Approx.	Ea.	102.00	43.00	145.00
	C. 8 x 25 seal of 19 mm.dia.Having breaking, capacity of 20 Tons weighting 1.35 Kg/Mtr. Approx.	Ea.	119.00	43.00	162.00
13-3-2	Replacing unserviceable landing gate/lock by new spring operated mechanical electric inter lock compel. with lever brass/gun metal contacts, roller etc.	Ea.	1695.00	170.00	1865.00
13-3-3	Replacing unserviceable car gate lock/switch by new one with necessary rubber roller. 'L' & 'T' type M.S. brackets.	Ea.	509.00	43.00	552.00
13-3-4	Replacing unserviceable two way direction switch by new one operating UP & DOWN contactor coil by a ramp fitted to the car having copper contacts, lever, rubber roller, M.S. stud etc.	Ea.	1695.00	170.00	1865.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
13-3-5	Replacing burnout heavy duty magnetic contactor made from hard drawn or forged copper contacts faced with silver/silver tungsten or cadmium complete with 110V. A.C. or D.C. operating coil.	Ea.	509.00	43.00	552.00
13-3-6	Replacing burnout operating coils which operates on 110V. A.C. or D.C.	Ea.	678.00	43.00	721.00
13-3-7	Replacing burnout double wound earth screened step down transformer from 415VA.To 220V/ 110V/24V/ 12V of capacity380V/185VA for control panel of the lift complete with connections.	Ea.	2967.00	170.00	3137.00
13-3-8	Replacing burnout a full wave rectifier (one pole of which is earthed) by new one to operate D.C. relay to actuate brake of 3A. capacity.	Ea.	2967.00	170.00	3137.00
13-3-9	Replacing burnout guide shoe liner by new one made from fibber plate on three side duly fastened on rail bracket with necessary riveting /bolting and oiling for smooth sliding.	Ea.	509.00	170.00	679.00
13-3-10	Replacing, burnout brake liner by new heavy duty brake liner lined with Ferodo or Similar material complete with proper riveting including setting to ensure satisfactory performance.				
	(A) Size 6" x 1/4"	Ea.	2967.00	212.00	3179.00
	(B) Size 4" x 1/4"	Ea.	2543.00	128.00	2671.00
13-3-11	Overhauling of lift machine gear box by opening the cover & replacing the new gear oil, oil seal & packing & refixing the same, The rates includes the setting of brake for proper levelling.	Job	0.00	1272.00	1272.00
13-3-12	Rewinding of lift duty A.C. squirrel cage induction motor with supper enamelled copper wire & insulating materials including cost of removing, carting & re-erecting the same.				
	(A) 5 B. P. Motor.	Ea.	2967.00	170.00	3137.00
	(B) 7.5 H. P. Motor.	Ea.	3263.00	170.00	3433.00
	(C) 10. H. P. Motor.	Ea.	3899.00	255.00	4154.00
	(D) 12.5 H. P. Motor.	Ea.	5509.00	339.00	5848.00
13-3-13	Replacing worried out landing door bearing by new one complete with necessary M. S. bush, collar and stud as required. (a) For automatic door operation.	Ea.	339.00	170.00	509.00
13-3-14	Providing and Fixing Aluminium Chequered Plate on flooring of Lift having 6-7 mm thickness	Smt.	3814.00	128.00	3942.00
13-3-15	Providing & fixing PVC flooring in the lift car using 4 mm thick plywood sheet, PVC floor tiles of good quality, fixing the same by using adhesive material, hardware material and finishing the same	Ea.	1272.00	170.00	1442.00
13-3-16	Spray painting the lift car cage, lift doors with one coat of red oxide and two coats of approved Lacquer paint after applying necessary 'Lapi'-primer coating & complete the job as per instruction of engineer in charge.	Ea.	212.00	43.00	255.00

CHAPTER - 14 SOLAR PV SYSTEM

IEC: 61215/IS: 14286	Crystalline silicon terrestrial photovoltaic modules – Design qualification and type approval.
IEC: 61730	Part 1 Photovoltaic (PV) module safety qualification – Requirements for construction.
IEC: 61730	Part 2 Photovoltaic (PV) module safety qualification – Requirements for testing.
IEC: 61701/IS: 61701	Salt Mist Corrosion Testing of the module.
IEC: 62804	Test method for detection of Potential Induced Degradation of photovoltaic (PV) modules

INVERTERS IES Standards for Reference

IEC/IS: 61683	Photovoltaic systems – Power Conditioners – Procedure for measuring efficiency
IEC 62093	Balance-of-system components for photovoltaic systems – Design qualification natural environments
IEC 60068	Environmental Testing
IEC 62116 / IEEE 1547/UL 1741/ equivalent IS standard	Islanding Prevention Measurement
IEC 61727 Relevant CEA/ CERC regulation and grid code (amended up to date)	Interfacing with utility grid
IEC 61000 series	EMC, harmonics, etc.
IEC 62109 (1&2), EN 50178 or equivalent	Electrical safety
Recommen- ded practice for PV – Utility interconne- ctions	IEEE standard 929 – 2000 or equivalent
IEC 62093 or equivalent	Reliability test standard

OTHER References

https://mnre.gov.in/img/documents/uploads/file_f-1615380939218.pdf	Ministry of New and Renewable Energy
https://geda.gujarat.gov.in/	Gujarat Energy Development Agency

	https://www.seci.co.in/view/publish/tender?tender=all	SOLAR ENERGY CORPORATION OF INDIA LIMITED			
PART-1 NEW Solar Power Project					
Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
14.1.1	<p>Supply, Installation, Testing & Commissioning of following size of Grid Tied Solar Power Plant with</p> <p>Solar Panels (ALMM approved): Frame Material : Anodized Aluminum alloy Frame With Twin Wall Profile, Front Cover : High Transmission Low-Iron Tempered Glass (AR Coated), High efficiency and positive power tolerance Pmax: 0/+5, Module Efficiency should be approx. 19.5%-22%, Normal operating temperature 45'C, Junction Box with Waterproof IP67 & MC4 Compatible and Enclosed with Bypass diodes, 100% Electroluminescence test to ensure error free Modules, Thep. temp. co-efficient of the PV module shall equal or better than -0.45%/degree C. Solar PV modules of minimum fill factor 75% to be used. Unit Production:- More than 4.5 Unit /kw /day (Actual)(1Year Avg) With 10 year Product warranty and 25 year Linear Power Warranty includes all mechanical and electrical parameters of the Solar panel. Modules must be complied to the DCR(Domestic content requirements). The Ration of AC to DC is 5:6 for the Installation capacity which are given in AC KW.</p> <p>Solar Inverter: MPPT Range: MPPT Range: 80-1000 V , Max efficiency: 97.5% - 98.9%, O/p Frequency: 50/60Hz, Operating Altitude (m) ≤4000, O/p Power Factor: ~1, O/P THDi: <3%, Operating Temperture Range: -25~60°C, Integrated protection of Inverter are Anti-islanding Protection, Input Reverse Polarity Protection, Insulation Resistor Detection, Ground fault protection, Residual Current Monitoring Unit, Output Over Current Protection, Output Short Circuit Protection, Output Over Voltage Protection, PV array string fault Protection. Protection Degree: IP65, User Interface LCD & APP, Datalogger &</p>				
	<p>Integrated, Input Reverse Polarity Protection</p> <p>Integrated, Insulation Resistor Detection</p> <p>Integrated, Residual Current Monitoring Unit</p> <p>Integrated, Output Over Current Protection</p> <p>Integrated, Output Short Circuit Protection</p> <p>Integrated, Output Over Voltage Protection</p> <p>Integrated, Protection Degree: IP65, User Interface LCD & APP,Datalogger & Communication: GPRS / Wi-Fi, Module Mounting Structure: The mounting (Rectangular pipe / square pipe / circular pipe) with requisite cross bars, nuts and bolts, etc. shall be Hot deep galvanized with minimum 80micron coating. The Rectangular / square /circular hollow pipe section used for the structure should have a minimum thickness of 2.0 mm. other than above, the material thickness should be minimum 2.5 mm. A certificate of a structural engineer certifying the strength and stability of the mounting structure to withstand the weight and wind speed of 150 km/hour throughout the life span of 25 years of the system, shall be submitted by the vendors. Hot Dipped Galvanized steel coils. suitable arrangement for base plate for foundation , solar panel mounting, the structure should be suitable for carry the load of solar panel.wiring. sprinkler</p>				

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(Excluding All charges namely GEDA Application fees, Solar connectivity Charges, Meter connectivity Charges, Meter testing Charges and system stability/strenthning charges.)				
	(A) Grid Tied Solar Power System: 1 - 6 kW (Single phase)	PER KW	44492.00	1695.00	46187.00
	(B) Grid Tied Solar Power System: 7 - 10 kW (3 - phase)	PER KW	41950.00	1695.00	43645.00
	(C) Grid Tied Solar Power System: 11 - 25 kW (3 - phase)	PER KW	40509.00	1526.00	42035.00
	(D) Grid Tied Solar Power System: 26 - 50 kW (3 - phase)	PER KW	40255.00	1484.00	41739.00
	(E) Grid Tied Solar Power System: 51 - 100 kW (3 - phase)	PER KW	38984.00	1272.00	40256.00
	(F) Grid Tied Solar Power System: 101 - 250 kW (3 - phase)	PER KW	38136.00	1272.00	39408.00
	(G) Grid Tied Solar Power System: 251 - 500 kW (3 - phase)	PER KW	37712.00	1060.00	38772.00
PART-2 SOLAR PANEL					
14.2.1	S.I.T.C of Poly Crystline/Mono Crystline PV Module (ALMM approved) with 72 Cells - 150 Cells or More , Frame Material : Anodized Aluminum alloy Frame With Twin Wall Profile, Front Cover : High Transmission Low-Iron Tempered Glass (AR Coated), High efficiency and positive power tolerance Pmax: 0/+5, Module Efficiency should be approx. 18%-21%, Normal operating temperature 45°C, Junction Box with Waterproof IP67 & MC4 Compatible and Enclosed with Bypass diodes 100% Electroluminescence test to ensure error free Modules, Thw temp. co-efficient of the PV module shall equal or better than - 0.45%/degree C. Solar PV modules of minimum fill factor 75% to be used. Unit Production:- 4 to 5 Unit /kw /day (Actual)(1Year Avg) With 10 year Product warranty and 25 year Linear Power Warranty.				
	(A) Moudule o/p Range: 250 - 335 watt , Maximum Power Voltage Vmpp: 26 -38 V, Maximum Power Current Imp: 8 - 8.9 A	PER WATT	27.00	2.00	29.00
	(B) Moudule o/p Range: 365 - 390 watt , Maximum Power Voltage Vmpp: 39 - 40 V, Maximum Power Current Imp: 9 - 10 A	PER WATT	28.00	2.00	30.00
	(C) Moudule o/p Range: 435 - 455 watt , Maximum Power Voltage Vmpp: 40 - 42 V, Maximum Power Current Imp: 10.5 - 11 A	PER WATT	29.00	2.00	31.00
	(D) Moudule o/p Range: 480 - 505 watt , Maximum Power Voltage Vmpp: 41 - 42 V, Maximum Power Current Imp: 12 - 13 A	PER WATT	30.00	2.00	32.00
	(E) Moudule o/p Range: 520 - 545 watt , Maximum Power Voltage Vmpp: 41 - 42 V, Maximum Power Current Imp: 12.5 - 13 A	PER WATT	31.00	2.00	33.00
PART - 3 INVERTERS					

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
14.3.1	S.I.T.C of Solar Inverter Gried Tied : MPPT Range: 80-1000 V, Max efficiency: 97.5% - 98.9%, O/p Frequency: 50/60Hz, Operating Altitude (m) ≤4000, O/p Power Factor: ~1, O/P THDi: <3%, Operating Temperture Range: - 25~60°C, Anti-islanding Protection: Integrated, Input Reverse Polarity Protection Integrated, Insulation Resistor Detection Integrated, Residual Current Monitoring Unit Integrated, Output Over Current Protection Integrated, Output Short Circuit Protection Integrated, Output Over Voltage Protection Integrated, Protection Degree: IP65, User Interface LCD & APP,Datalogger & Communication: GPRS / Wi-Fi (Optional)				
	(A) Solar Inverter: 1 kW to 3 kW : Max. input Current: 10A, Max DC i/p Power: 1300-3900W & Nominal o/p Power: 1000-3000W Nomimal	Per Watt	9.00	1.00	10.00
	(B) Solar Inverter: 3 kW to 6 kW : Max. input Current: 11A, Max DC i/p Power: 3900-7200W & Nominal o/p Power: 3000-6000W, Nomimal	Per Watt	9.00	1.00	10.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(C) Solar Inverter: 6 kW to 15 kW: Max. input Current: 22 A, Max DC i/p Power: 7800-19500 W & Nominal o/p Power: 6000-16500 W,	Per Watt	8.00	1.00	9.00
	(D) Solar Inverter: 15 kW to 25 kW: Max. input Current: 27 A, Max DC i/p Power: 22100-32500W & Nominal o/p Power: 15000-25000W,	Per Watt	8.00	1.00	9.00
	(E) Solar Inverter: 25 kW to 50 kW: Max. input Current: 30 A, Max DC i/p Power: 22100-51500 W & Nominal o/p Power: 25000-50000W,	Per Watt	7.00	1.00	8.00
	(F) Solar Inverter: 50 kW to 100 kW: Max. input Current: 40 A, Max DC i/p Power: 66500-130500 W & Nominal o/p Power: 50000-100000	Per Watt	7.00	1.00	8.00
	(G) Solar Inverter: 100 kW to 136 kW: Max. input Current: 40 A, Max DC i/p Power: 130.5 - 176.5 KW & Nominal o/p Power: 100-136 KW,	Per Watt	7.00	1.00	8.00
	(H) Solar Inverter: 136 kW to 200 kW: Max. input Current: 40 A, Max DC i/p Power: 176.5-260KW & Nominal o/p Power: 136-200KW,	Per Watt	7.00	1.00	8.00
PART - 4 STRUCTURE					
14.4.1	Supplying and Erecting Seamless Box Pipe of suitable size for rooftop solar installations with good stability against wind, Thickness 2 mm and 80 micron, Hot Dipped Galvanized steel coils. suitable arrangement for base plate for foundation , solar panel mounting, the structure should be suitable for carry the load of solar panel,wiring, sprinkler system etc. with necessary foundation work/wall mount, j bolt, anchor fastner etc. the nut bolt used for installtion of stucture should be (SS 304) quality. box. pipe ref. size (A) 40 x 40 x 2mm, (B) 50 × 50 × 2mm, (C.) 60 x 40 x 2mm,(D) 72 x 72 x 2.5mm	PER KG	128.00	2.00	130.00
14.4.2	Supplying and Erecting 'C' Channel of suitable size for rooftop solar installations with good stability against wind, Hot Dipped Galvanized steel coils. It have suitable arrangement for base plate for foundation Screw Arrangement , solar panel mounting, the structure should be suitable for carry the load of solar panel,wiring, sprinkler system etc. with necessary foundation work/wall mount, j bolt, anchor fastner etc. the nut bolt used for installtion of stucture should be (SS 304) quality.	PER KG	149.00	2.00	151.00
14.4.3	Supplying and Erecting Stainless Steel Nut Bolt (SS 304) for Installation of Solar PV Module, Structures, and other related items with required size as engineer in charge demands for project Size, length upto 10 x 150 mm	Ea.	39.00	5.00	44.00
PART - 5 DC Cables					
14.5.1	DC Cable: Electron beam cross linked compound,UV, Ozone, Temperature & Hydrolysis resistant Flame Retardant, Low Smoke Excellent Encapsulation Very long / Service life > 25 Standards / Material Properties: Fire performance : IEC 60332-1-2 Smoke emission : IEC 61034/ EN 50268-2 Halogen Free: EN 50267-2-1/-2, IEC 60754-2 Toxicity: EN 50305, ITC – Index <3 Ozone Resistant : EN50396 Weathering UV: HD 605/A1 or DIN 53367 Approvals : EN 50618; H1Z2Z2-k with suitable sized of PVC pipe(ISI Mark) and Clamps,Shadels,Lugs.				
	(A) 1 core 4 sqmm copper DC cable Colour Red	PER MTR	73.00	3.00	76.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
	(B) 1 core 4 sqmm copper DC cable Colour Black	PER MTR	73.00	3.00	76.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
PART - 6 ACDB					
14.6.1	S,I,T.C of Distribution board from AC Side, ACDB 1-Phase - 1 kW - 6 kW: AC MCB: 16-25A, 2POLE, C-CURVE, 10KA, AC SPD: 40KA, 1P+N, TERMINAL/END PLATE/END CLAMP: 6SQMM (KUT6) FOR OUTPUT, AC Interconnection with suitable size wire/cable, All switchgears and connection are enclosed with IP66 Enclosure which have transparent cover in frontside to view and operate the MCB position.	Ea.	2967.00	424.00	3391.00
14.6.2	S,I,T.C of Distribution board from AC Side ,ACDB 3-Phase - 6 kW - 10 kW: AC MCB 20-32A, 4POLE, C CURVE, 10KA, AC SPD 40KA, 3P+N, TERMINAL/END PLATE/END CLAMP: 6SQMM (KUT10) FOR OUTPUT, AC Interconnection with suitable size wire/cable. All switchgears and connection are enclosed with IP66 Enclosure which have transparent cover in frontside to view and operate the MCB position.	Ea.	6356.00	424.00	6780.00
14.6.3	S.I.T.C of Distribution board from AC Side, ACDB 3-Phase - 11 kW - 20 kW: AC1 DUTY CONTRACTOR-40A 4P, 100A MCCB 4P(Cat III), 3 PHASE SPD, VOLTAGE MONITORING RELAY, ELR WITH CBCT, PHASE INDICATING LAMP, POWER CABLE & OTHER ACCESSORIES, All switchgears and connection are enclosed with IP66 Enclosure and operate the MCB position.	Ea.	7628.00	594.00	8222.00
14.6.4	S.I.T.C of Distribution board from AC Side ,ACDB 3-Phase - 21 kW - 50 kW: AC1 DUTY CONTRACTOR-80A 4P, 100A MCCB 4P(Cat III), 3 PHASE SPD, VOLTAGE MONITORING RELAY, ELR WITH CBCT, PHASE INDICATING LAMP, POWER CABLE & OTHER ACCESSORIES, All switchgears and connection are enclosed with IP66 Enclosure and operate the position.	Ea.	17373.00	594.00	17967.00
14.6.5	S.I.T.C of Distribution board from AC Side , ACDB 3-Phase - 51 kW - 100 kW: which includes AC1 DUTY CONTRACTOR-200A 4P, 200A MCCB 4P(Cat III) WITH SPREADER & SHUNT, 3 PHASE SPD, VOLTAGE MONITORING RELAY, ELR WITH CBCT, PHASE INDICATING LAMP, POWER CABLE & OTHER ACCESSORIES. All switchgears and connection are enclosed with IP66 Enclosure and operate the position.	Ea.	41102.00	848.00	41950.00
14.6.6	S.I.T.C of Distribution board from AC Side , ACDB 3-Phase - 101 kW - 200 kW: AC1 DUTY CONTRACTOR-300A 4P, 200A MCCB 4P (Cat III) WITH SPREADER & SHUNT, 3 PHASE SPD, VOLTAGE MONITORING RELAY, ELR WITH CBCT, PHASE INDICATING LAMP, POWER CABLE & OTHER ACCESSORIES. All switchgears and connection are enclosed with IP66 Enclosure and operate the position.	Ea.	55509.00	848.00	56357.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
PART - 7 DCDB					
14.7.1	S.I.T.C of Distributiob System DC Side, DCDB - 1-Phase - 1 kW - 3.5 kW(1in:1out) : DC MCB 500V, 16A, DC SPD 600V, TYPE 2, TERMINAL/END,PLATE/END CLAMP: 4SQMM (KUT6) FOR OUTPUT, DC CABLE With suitable size of interconnection.	Ea.	3390.00	424.00	3814.00
14.7.2	S.I.T.C of Distributiob System DC Side, DCDB - 3.6 kW - 6 kW (2in:2out) : DC MCB 500V, 16A, DC SPD 600V, TYPE 2, TERMINAL/END PLATE/END CLAMP 4SQMM (KUT6), GREEN (KUT6), DC CABLE With suitable size of interconnection.	Ea.	5509.00	424.00	5933.00
14.7.3	S.I.T.C of Distributiob System DC Side, DCDB - 6 kW - 10 kW (3in:3out) : DC MCB 500V, 16A, DC SPD 1000V, TYPE 2, TERMINAL/END PLATE/END CLAMP 4SQMM (KUT6), GREEN (KUT6), DC CABLE With suitable size of interconnection.	Ea.	7204.00	424.00	7628.00
14.7.4	S.I.T.C of Distributiob System DC Side, DCDB - 10 kW - 20 kW (4in:4out) : Input Mcb - 1000 V, 16 Amp, 1000 V DC SPD TYPE 2, TERMINAL/END,PLATE/END CLAMP: 4SQMM (KUT6) FOR OUTPUT, DC CABLE With suitable size of interconnection.	Ea.	9746.00	594.00	10340.00
14.7.5	S.I.T.C of Distributiob System DC Side, DCDB - 20 kW - 25 kW (5in:5out) : Input Mcb - 1000 V, 16 Amp, 1000 V DC SPD TYPE 2, TERMINAL/END,PLATE/END CLAMP: 4SQMM (KUT6) FOR OUTPUT, DC CABLE With suitable size of interconnection.	Ea.	13984.00	594.00	14578.00
14.7.6	S.I.T.C of Distributiob System DC Side, DCDB - 35 kW - 40 kW (8in:8out) : Input Mcb - 1000 V, 16 Amp, 1000 V DC SPD TYPE 2, TERMINAL/END,PLATE/END CLAMP: 4SQMM (KUT6) FOR OUTPUT, DC CABLE With suitable size of interconnection.	Ea.	19916.00	594.00	20510.00
14.7.7	S.I.T.C of Distributiob System DC Side, DCDB - 50 kW - 65 kW (12in:12out) : Input Mcb - 1000 V, 16 Amp, 1000 V DC SPD TYPE 2, TERMINAL/END,PLATE/END CLAMP: 4SQMM (KUT6) FOR OUTPUT, DC CABLE With suitable size of interconnection.	Ea.	24153.00	594.00	24747.00
14.7.8	S.I.T.C of Distributiob System DC Side, DCDB - 60 kW - 80 kW (16in:16out) : Input Mcb - 1000 V, 16 Amp, 1000 V DC SPD TYPE 2, TERMINAL/END,PLATE/END CLAMP: 4SQMM (KUT6) FOR OUTPUT, DC CABLE With suitable size of interconnection.	Ea.	25848.00	848.00	26696.00

Item No	Description	Unit	Cost of Materials	Cost of Labour	Total
14.7.9	S.I.T.C of Distributiob System DC Side, DCDB - 80 kW - 300 kW (18in:18out) : Input Mcb - 1000 V, 16 Amp, 1000 V DC SPD TYPE 2, TERMINAL/END,PLATE/END CLAMP: 4SQMM (KUT6) FOR OUTPUT, DC CABLE With suitable size of interconnection.	Ea.	31780.00	848.00	32628.00
PART - 8 Installation Accessories					
14.8.1	Supplying & Errecting MC4 Connector Male - Female Set for Solar DC Cable which is installed in Solar PV-module/Inverter/DCDB etc.	Ea.	50.00	2.00	52.00
PART - 9 Water Sprinkler System					
14.9.1	Providing & erecting Automatic solar panel cleaning system for solar power projects which includes necessary plumbing work (UPVC pipes and accessories) from source of water to project site (upto 30 meters),Suitable size of sub mercible/ open well motor, necessary wiring for motor and sprinkler system with safety, timer circuit for automatically on/off the sprinkler system, necessary size oand number of nozzles/JET (minimum 1 Nozzle/Jet per module).				
	(A) 1KW-5KW Cleaning System	PER KW	3390.00	424.00	3814.00
	(B) 5KW-10KW Cleaning System	PER KW	3390.00	424.00	3814.00
	(C) 11KW-20KW Cleaning System	PER KW	3221.00	424.00	3645.00
	(D) 21KW-50KW Cleaning System	PER KW	3221.00	424.00	3645.00
	(E) 51KW-100KW Cleaning System	PER KW	3094.00	424.00	3518.00
	(F) 101KW-200KW Cleaning System	PER KW	3094.00	424.00	3518.00
PART - 10 AMC					
14.10.1	The all inclusive comprehensive annual maintanace contract cost covers yearly maintainance of solar Pv Modules, Inverter, wiring,earthing,switchgears, etc with material and labour cost including preventive maintainance.The cost covers entire installation. AMC also includes monthly site visit and inspection of project with submission of inspection and solar generation report. All parts should be replaced/repared if found faulty within specified time. Agency has to provide necessary licening work for warranty,power,Bidirectional meter etc				
	(A) 1KW-10KW System	PER KW	0.00	5509.00	5509.00
	(B) 11KW-20KW System	PER KW	0.00	5085.00	5085.00
	(C) 21KW-50KW System	PER KW	0.00	4238.00	4238.00
	(D) 51KW-100KW System	PER KW	0.00	3814.00	3814.00
	(E) 101KW-200KW System	PER KW	0.00	3390.00	3390.00