1.0 LT Induction Motors

Item No	Description of Item	Unit	Material	Labour	Total Rate	Remark
	L.T.MOTORS					
	Supply of Foot Mounted Motors Screen Protected Drip Proof (SPDP) 1000 RPM					
1-1-0	Supply of Foot Mounted Motors SPDP 1000 RPM Foot Mounted SPDP motor 1000 RPM, squirrel cage induction motor, conforming to IS 325 having continuous rating suitable for operation at 415 Volts +/- 10%, 3 Phase, 50 Hz +/-3% with "F" class insulation temperature rise limited to class "B" insulation.					
1-1-1	45 kW (60 HP)	No				
1-1-2	55 kW (75 HP)	No				
1-1-3	75 kW (100 HP)	No				
1-1-4	90 kW (120 HP)	No				
1-1-5	110 kW (150 HP)	No				
1-1-6	125 kW (170 HP)	No				
1-1-7	135 kW (180 HP)	No				
1-1-8	150 kW (200 HP)	No				
1-1-9	160 kW (215 HP)	No				
1-1-10	180 kW (240 HP)	No				
1-1-11	187 kW (250 HP)	No				
1-1-12	200 kW (270 HP)	No				
1-1-13	225 kW (300 HP)	No				
	Foot Mounted Motor TEFC 1500 RPM					
1-2-0	Supply of Foot Mounted TEFC motor 1500 RPM, squirrel cage induction motor, conforming to IS 12615:2011 of efficiency class IE3 premium having continuous rating suitable for operation at 415 Volts +/-10%, 3 Phase, 50 Hz +/-3% with "F" class					
1-2-1	1.1 kW (1.5 HP)	No				
1-2-2	1.5 kW (2 HP)	No				
1-2-3	2.2 kW (3 HP)	No				
1-2-4	3.7 kW (5 HP)	No				
1-2-5	5.5 kW (7 HP)	No				
1-2-6	7.5 kW (10 HP)	No				
1-2-7	9.3 kW (12 HP)	No				
1-2-8	11 kW (15 HP)	No				
1-2-9	15 kW (20 HP)	No				
1-2-10	18.5 kW (25 HP)	No				
1-2-11	22 kW (30 HP)	No				
1-2-12	30 kW (40 HP)	No				
1-2-13	37 kW (50 HP)	No				

1-2-14	45 kW (60 HP)	No				
1-2-15	55 kW (75 HP)	No				
1-2-16	75 kW (100 HP)	No				
	Vertical Hollow Shaft Motor TEFC 1500 RPM					
1-3-0	Supply of Vertical Hollow Shaft Motor TEFC 1500 RPM Providing, erecting and giving test and trial of vertical hollow shaft motor 1500 RPM, squirrel cage induction motor, conforming to IS 12615, class IE3 premium, having continuous rating suitable for operation at 415 Volts +/-10%, 3 Phase, 50 Hz +/-5% with "F" class insulation temperature rise limited to class "B" insulation.					
1-3-1	18.5 kW (25 HP)	No				
1-3-2	22 kW (30 HP)	No				
1-3-3	30 kW (40 HP)	No				
1-3-4	37 kW (50 HP)	No				
1-3-5	45 kW (60 HP)	No				
1-3-6	55 kW (75 HP)	No				
1-3-7	67 kW (90 HP)	No				
1-3-8	75 kW (100 HP)	No				
1-3-9	90 kW (120 HP)	No				
1-3-10	110 kW (150 HP)	No				
1-3-11	125 kW (170 HP)	No				
1-3-12	135 kW (180 HP)	No				
1-3-13	150 kW (200 HP)	No				
1-3-14	160 kW (215 HP)	No				
1-3-15	180 kW (240 HP)	No				
1-3-16	187 kW (250 HP)	No				
1-3-17	200 kW (270 HP)	No				
1-3-18	225 kW (300 HP)	No				
	Vertical Solid Shaft Motor TEFC 1500 RPM					
1-4-0	Supply of Vertical Solid Shaft Motor TEFC 1500 RPM Providing, erecting and giving test and trial of vertical solid shaft motor 1500 RPM, squirrel cage induction motor, conforming to IS 12615, class IE3 premium, having continuous rating suitable for operation at 415 Volts +/-10%, 3 Phase, 50 Hz +/-5% with "F" class insulation temperature rise limited to class "B" insulation. (Note:- Add 5 % on the rate of Horizontal foot mounted (TEFC) motor for vertical flange mounted solid shaft motor) as per MJP MECH/ ELECT DSR 2019-20					
1-4-1	1.1 kW (1.5 HP)	No				
1-4-2	1.5 kW (2 HP)	No				

1-4-3	2.2 kW (3 HP)	No				
1-4-4	3.7 kW (5 HP)	No				
1-4-5	5.5 kW (7 HP)	No				
1-4-6	7.5 kW (10 HP)	No				
1-4-7	9.3 kW (12 HP)	No				
1-4-8	11 kW (15 HP)	No				
1-4-9	15 kW (20 HP)	No				
1-4-10	18.5 kW (25 HP)	No				
1-4-11	22 kW (30 HP)	No				
1-4-12	30 kW (40 HP)	No				
1-4-13	37 kW (50 HP)	No				
1-4-14	45 kW (60 HP)	No				
1-4-15	55 kW (75 HP)	No				
1-4-16	75 kW (100 HP)	No				
1-5-0	**Overhauling of 3Ph,50Hz, 415V squirrel cage Induction Motor**					
	Overhauling of 3Ph,50Hz, 415V squirrel cage Induction Motor for Pump with replacement of DE & NDE Bearing , including following work. 1)De-Coupling of Motor. 2)Testing of Motor before & after overhauling a)IR & PT Test b)Winding resistance 3)Dismantling all removable cable of motors. 4)Dismantling the Motor from the Starter. 5)Through cleaning of starter and rotor. 6)Varnishing of Starter winding and rotor.					
	7)Application of Bectol Red on overhauling portion of winding & Bectol Corey on Lore Portion 8)Bearing replacement. 9)Fitment of Motor. 10) Coupling on motor. 11)No load /Load Trial Including labour , Transportation etc.					
1-5-0	**Overhauling of Foot Mounted Motor Screen Protected Drip Proof (SPDP) 3Ph,50Hz, 415V ,1000 RPM**					
1-5-1	45 kW (60 HP)	Job				
1-5-2	55 kW (75 HP)	Job				
1-5-3	75 kW (100 HP)	Job				
1-5-4	90 kW (120 HP)	Job				
1-5-5	110 kW (150 HP)	Job				
1-5-6	125 kW (170 HP)	Job				
1-5-7	135 kW (180 HP)	Job				
1-5-8	150 kW (200 HP)	Job				
1-5-9	160 kW (215 HP)	Job				

1-5-10	180 kW (240 HP)	Job				
1-5-11	187 kW (250 HP)	Job				
1-5-12	200 kW (270 HP)	Job				
1-5-13	225 kW (300 HP)	Job				
1-6-0	**Overhauling of Foot Mounted Motor SPDP 3Ph,50Hz, 415V ,1500 RPM.**					
1-6-1	18.5 kW (25 HP)	Job				
1-6-2	22 kW (30 HP)	Job				
1-6-3	30 kW (40 HP)	Job				
1-6-4	37 kW (50 HP)	Job				
1-6-5	45 kW (60 HP)	Job				
1-6-6	55 kW (75 HP)	Job				
1-6-7	75 kW (100 HP)	Job				
1-6-8	90 kW (120 HP)	Job				
1-6-9	110 kW (150 HP)	Job				
1-6-10	125 kW (170 HP)	Job				
1-6-11	135 kW (180 HP)	Job				
1-6-12	150 kW (200 HP)	Job				
1-6-13	160 kW (215 HP)	Job				
1-6-14	180 kW (240 HP)	Job				
1-6-15	187 kW (250 HP)	Job				
1-6-16	200 kW (270 HP)	Job				
1-6-17	225 kW (300 HP)	Job				
1-7-0	**Overhauling of Foot Mounted Motor SPDP 3Ph,50Hz, 415V 3000 RPM**					
1-7-1	11 kW (15 HP)	Job				
1-7-2	15 kW (20 HP)	Job				
1-7-3	18.5 kW (25 HP)	Job				
1-7-4	22 kW (30 HP)	Job				
1-7-5	30 kW (40 HP)	Job				
1-7-6	37 kW (50 HP)	Job				
1-7-7	45 kW (60 HP)	Job				
1-7-8	55 kW (75 HP)	Job				
1-7-9	75 kW (100 HP)	Job				
1-8-0	**Overhauling of Foot Mounted Motor TEFC 3Ph,50Hz, 415V 1500 RPM**					
1-8-1	1.1 kW (1.5 HP)	Job				
1-8-2	1.5 kW (2 HP)	Job				
1-8-3	2.2 kW (3 HP)	Job				
1-8-4	3.7 kW (5 HP)	Job				
1-8-5	5.5 kW (7 HP)	Job				
1-8-6	7.5 kW (10 HP)	Job				
1-8-7	9.3 kW (12 HP)	Job				
1-8-8	11 kW (15 HP)	Job				

1-8-9	15 kW (20 HP)	Job				
1-8-10	18.5 kW (25 HP)	Job				
1-8-11	22 kW (30 HP)	Job				
1-8-12	30 kW (40 HP)	Job				
1-8-13	37 kW (50 HP)	Job				
1-8-14	45 kW (60 HP)	Job				
1-8-15	55 kW (75 HP)	Job				
1-8-16	75 kW (100 HP)	Job				
1-9-0	**Overhauling of Vertical Hollow Shaft Motor SPDP 3Ph,50Hz, 415V ,1500 RPM**					
1-9-1	18.5 kW (25 HP)	Job				
1-9-2	22 kW (30 HP)	Job				
1-9-3	30 kW (40 HP)	Job				
1-9-4	37 kW (50 HP)	Job				
1-9-5	45 kW (60 HP)	Job				
1-9-6	55 kW (75 HP)	Job				
1-9-7	67 kW (90 HP)	Job				
1-9-8	75 kW (100 HP)	Job				
1-9-9	90 kW (120 HP)	Job				
1-9-10	110 kW (150 HP)	Job				
1-9-11	125 kW (170 HP)	Job				
1-9-12	135 kW (180 HP)	Job				
1-9-13	150 kW (200 HP)	Job				
1-9-14	160 kW (215 HP)	Job				
1-9-15	180 kW (240 HP)	Job				
1-9-16	187 kW (250 HP)	Job				
1-9-17	200 kW (270 HP)	Job				
1-9-18	225 kW (300 HP)	Job				
1-10-0	**Overhauling of Vertical Hollow Shaft Motor TEFC 3Ph,50Hz, 415V ,1500 RPM**					
1-10-1	18.5 kW (25 HP)	Job				
1-10-2	22 kW (30 HP)	Job				
1-10-3	30 kW (40 HP)	Job				
1-10-4	37 kW (50 HP)	Job				
1-10-5	45 kW (60 HP)	Job				
1-10-6	55 kW (75 HP)	Job				
1-10-7	67 kW (90 HP)	Job				
1-10-8	75 kW (100 HP)	Job				
1-10-9	90 kW (120 HP)	Job				
1-10-10	110 kW (150 HP)	Job				
1-10-11	125 kW (170 HP)	Job				
1-10-12	135 kW (180 HP)	Job				
1-10-13	150 kW (200 HP)	Job				
1-10-14	160 kW (215 HP)	Job				

1-10-15	180 kW (240 HP)	Job				
1-10-16	187 kW (250 HP)	Job				
1-10-17	200 kW (270 HP)	Job				
1-10-18	225 kW (300 HP)	Job				
1-11-0	**Rewinding of 3Ph,50Hz, 415V squirrel cage Induction Motor**					
	Rewinding of Vertical Solid Shaft H.T. Motor The Scope of work as follows 1) Decoupling, collecting faulty motor from site. 2)To and Fro Transportation of Motor from site to works by the agency. 3) Dismantling and checking stator and rotor visualy for any damages, recording resistance, IR values. 4)Thorough Cleaning of all stator winding, rotor and assembly components. 5)Dismantling of all coils and recording all dimensions. 6) Procurement of insulated class F copper conductors as per design and all insulating material. 7) Manufacturing new coils as per design and rewinding of stator. 8)Supply and fitting of burnt Terminals & insulators.					
	9) Testing individual coils for resistance, inter turn, HV,Tan delta 10)Testing of stator windings for resistance, inter turn, HV,Tan delta 11)Heating , varnishing and curing windings in oven 12) Necessary Repairs and Dynamic Balancing of rotor. 13) If bearings found ok then reassembling the motor. 14) If bearings found wornout then Supply & replacement of DE & NDE Bearings. & reassembling the motor.The Cost of of bearings will be paid extra. 15) Checking windings IR, Resistance, inductance and surge test for inter turn. 16)No load trial with low voltage and recording voltage, current , speed, bearing temperature , vibration etc. 17)Painting of motor & despatch to site . 18)Reerection at site ,No load & load testing complete. 19)Dismantled old scrap material of cu winding ,bearing etc. shall be retained by agency.					
1-11-1	1.1 kW (1.5 HP)	Job				
1-11-2	1.5 kW (2 HP)	Job				
1-11-3	2.2 kW (3 HP)	Job				
1-11-4	3.7 kW (5 HP)	Job				
1-11-5	5.5 kW (7 HP)	Job				

1-11-6	7.5 kW (10 HP)	Job				
1-11-7	9.3 kW (12 HP)	Job				
1-11-8	11 kW (15 HP)	Job				
1-11-9	15 kW (20 HP)	Job				
1-11-10	18.5 kW (25 HP)	Job				
1-11-11	22 kW (30 HP)	Job				
1-11-12	30 kW (40 HP)	Job				
1-11-13	37 kW (50 HP)	Job				
1-11-14	45 kW (60 HP)	Job				
1-11-15	55 kW (75 HP)	Job				
1-11-16	75 kW (100 HP)	Job				
1-11-17	90 kW (120 HP)	Job				
1-11-18	110 kW (150 HP)	Job				
1-11-19	125 kW (170 HP)	Job				
1-11-20	135 kW (180 HP)	Job				
1-11-21	150 kW (200 HP)	Job				
1-11-22	160 kW (215 HP)	Job				
1-11-23	180 kW (240 HP)	Job				
1-11-24	187 kW (250 HP)	Job				
1-11-25	200 kW (270 HP)	Job				
1-11-26	225 kW (300 HP)	Job				
1-11-27	325 kW (440 HP)	Job				
	2.0 HT Induction Motors					
Item No	**Description of Item**	**Unit**	**Material**	**Labour**	**Total Rate**	**Remark**
	H.T.MOTORS					
	3.3 KV Foot Mounted TEFC motor 1000 RPM					
2-1-0	Supply of Foot Mounted TEFC motor 1000 RPM, squirrel cage induction motor, conforming to IS 12615:2011 having continuous rating suitable for operation at 3300 Volts +/-10%, 3 Phase, 50 Hz +/-3% with "F" class insulation temperature rise limited to class "B" insulation. Motor shall be fitted with suitable space heater and six nos. RTD.					
2-1-1	225 kW (300 HP)	No				
2-1-2	250 kW (335 HP)	No				
2-1-3	280 kW (375 HP)	No				
2-1-4	340 kW (456 HP)	No				
2-1-5	390 kW (523 HP)	No				
2-1-6	440 kW (590 HP)	No				
2-1-7	510 kW (684 HP)	No				
2-1-8	580 kW (777 HP)	No				
2-1-9	660 kW (885 HP)	No				

	3.3 kV Foot Mounted Motor TEFC 1500 RPM					
2-2-0	Supply of Foot Mounted TEFC motor 1500 RPM, squirrel cage induction motor, conforming to IS 12615:2011 having continuous rating suitable for operation at 3300 Volts +/-10%, 3 Phase, 50 Hz +/-3% with "F" class insulation temperature rise limited to class "B" insulation. Motor shall be fitted with suitable space heater and six nos. RTD.					
2-2-1	225 kW (300 HP)	No				
2-2-2	250 kW (335 HP)	No				
2-2-3	280 kW (375 HP)	No				
2-2-4	330 kW (442 HP)	No				
2-2-5	370 kW (495 HP)	No				
2-2-6	425 kW (569 HP)	No				
2-2-7	510 kW (683 HP)	No				
2-2-8	660 kW (885 HP)	No				
	3.3 kV Vertical Flange Mounted Motor TEFC 1000 RPM					
2-3-0	Supply of Vertical Flange Mounted Motor TEFC 1000 RPM, squirrel cage induction motor, conforming to IS 12615:2011 having continuous rating suitable for operation at 3300 Volts +/-10%, 3 Phase, 50 Hz +/-3% with "F" class insulation temperature rise limited to class "B" insulation. Motor shall be fitted with suitable space heater and six nos. RTD.					
2-3-1	225 kW (300 HP)	No				
2-3-2	250 kW (335 HP)	No				
2-3-3	280 kW (375 HP)	No				
2-3-4	340 kW (456 HP)	No				
2-3-5	390 kW (523 HP)	No				
2-3-6	440 kW (590 HP)	No				
2-3-7	510 kW (684 HP)	No				
2-3-8	580 kW (777 HP)	No				
2-3-9	660 kW (885 HP)	No				
	3.3 kV Foot Mounted Motor TEFC1500 RPM					
2-4-0	Supply of Foot Mounted TEFC motor 1500 RPM, squirrel cage induction motor, conforming to IS 12615:2011 having continuous rating suitable for operation at 3300 Volts +/-10%, 3 Phase, 50 Hz +/-3% with "F" class insulation temperature rise limited to class "B" insulation. Motor shall be fitted with suitable space heater and six nos. RTD.					
2-4-1	225 kW (300 HP)	No				
2-4-2	250 kW (335 HP)	No				

2-4-3	280 kW (375 HP)	No				
2-4-4	330 kW (442 HP)	No				
2-4-5	370 kW (495 HP)	No				
2-4-6	425 kW (569 HP)	No				
2-4-7	510 kW (683 HP)	No				
2-4-8	660 kW (885 HP)	No				
2-5-0	Supply, installation , Testing & commissioning at site of work , testing to full capacity , solid shaft sqirrel cage Induction Motor TEFC/CACW Type,F Class Insulation suitable for operation on 3Ph.,50 Hz,.3.3 KV with voltage variation +/- 10% and frequency variation +/- 3% suitable for direct coupling with pump as per latest rivision of IS:325, is:4722 and other relevant IS specifications to meet the power requirement of pump	KW				
2-6-0	Supply, installation , Testing & commissioning at site of work , testing to full capacity , solid shaft sqirrel cage Induction Motor TEFC/CACW Type,F Class Insulation suitable for operation on 3Ph.,50 Hz,.6.6 KV with voltage variation +/- 10% and frequency variation +/- 3% suitable for direct coupling with pump as per latest rivision of IS:325, is:4722 and other relevant IS specifications to meet the power requirement of pump	KW				
2-7-0	Supply, installation , Testing & commissioning at site of work , testing to full capacity , solid shaft sqirrel cage Induction Motor TEFC/CACW Type,F Class Insulation suitable for operation on 3Ph.,50 Hz,.11 KV with voltage variation +/- 10% and frequency variation +/- 3% suitable for direct coupling with pump as per latest rivision of IS:325, is:4722 and other relevant IS specifications to meet the power requirement of pump	KW				
2-8-0	**Overhauling 3Ph,50Hz, squirrel cage Induction H.T. Motor**					

	Overhauling of Vertical Solid Shaft H.T. Motor used for V.T. Pump with replacement of DE & NDE Bearing , including following work. 1)De-Coupling of Motor. 2)Testing of Motor before & after overhauling a)IR & PT Test b)Winding resistance c)RTD Checks. d)Surge comparison Test. 3)Dismantling all removable cable of motors. 4)Dismantling the Motor from the Starter. 5)Through cleaning of starter and rotor. 6)Varnishing of Starter winding and rotor.					
	7)Application of Bectol Red on overhauling portion of winding & Bectol Corey on Lore Portion 8)Bearing replacement. 9)Fitment of Motor. 10) Coupling on motor. 11)No load Trial Including labour , Transportation etc.					
2-8-0	**Overhauling of 3Ph,50Hz, 3.3kv squirrel cage Induction Motor Up to**					
2-8-1	200 to 500 kW	Job				
2-8-2	501 to 800 kW	Job				
2-8-3	801 to 1000 kW	Job				
2-9-0	**Overhauling of 3Ph,50Hz, 6.6kv squirrel cage Induction Motor up to**					
2-9-1	250KW 500kw	Job				
2-9-2	501 Kw to 750kw	Job				
2-9-3	750 to 1000 kw	Job				
2-9-4	1001 to 1250kw	Job				
2-9-5	1251 to 1500kw	Job				
2-9-6	1501 to 1750kw	Job				
2-9-7	1751 to 2000kw	Job				
2-9-8	2001 to 2500kw	Job				
2-10-0	**Overhauling of 3Ph,50Hz, 11kv squirrel cage Induction Motor Up to**					
2-10-1	501 Kw to 750kw	Job				
2-10-2	750 to 1000 kw	Job				
2-10-3	1001 to 1250kw	Job				
2-10-4	1251 to 1500kw	Job				
2-10-5	1501 to 1750kw	Job				
2-10-6	1751 to 2000kw	Job				
2-10-7	2001 to 2500kw	Job				
2-11-0	**Rewinding of 3Ph,50Hz, squirrel cage Induction H.T. Motor**					

	Rewinding of Vertical Solid Shaft H.T. Motor The Scope of work as follows 1) Decoupling, collecting faulty motor from site. 2)To and Fro Transportation of Motor from site to works by the agency. 3) Dismantling and checking stator and rotor visualy for any damages, recording resistance, lR values. 4)Thorough Cleaning of all stator winding, rotor and assembly components. 5)Dismantling of all coils and recording all dimensions. 6) Procurement of insulated class F copper conductors as per design and all insulating material. 7) Manufacturing new coils as per design and rewinding of stator. 8)Supply and fitting of burnt Terminals & insulators.					
	9) Testing individual coils for resistance, inter turn, HV,Tan delta 10)Testing of stator windings for resistance, inter turn, HV,Tan delta 11)Heating , varnishing and curing windings in oven 12) Necessary Repairs and Dynamic Balancing of rotor. 13) If bearings found ok then reassembling the motor. 14) If bearings found wornout then Supply & replacement of DE & NDE Bearings. & reassembling the motor.The Cost of of bearings will be paid extra. 15) Checking windings lR, Resistance, inductance and surge test for inter turn. 16)No load trial with low voltage and recording voltage, current , speed, bearing temperature , vibration etc. 17)Painting of motor and despatch to site . 18)Reerection at site ,No load & load testing complete. 19)Dismantled old scrap material of cu winding ,bearing etc. shall be retained by agency.					
2-11-0	**Rewinding of 3Ph,50Hz,3.3kv squirrel cage Induction Motor Up to**					
2-11-1	i) 200 to 500 kW	Job				
2-11-2	ii) 501 to 800 kW	Job				
2-11-3	iii) 801 to 1000 kW	Job				
2-12-0	**Rewinding of 3Ph,50Hz,6.6kv squirrel cage Induction Motor Up to**					
2-12-1	250KW 500kw					
2-12-2	501 Kw to 750kw	Job				
2-12-3	750 to 1000 kw	Job				
2-12-4	1001 to 1250kw	Job				
2-12-5	1251 to 1500kw	Job				

2-12-6	1501 to 1750kw	Job				
2-12-7	1751 to 2000kw	Job				
2-12-8	2001 to 2500kw	Job				
2-13-0	**Rewinding of 3Ph,50Hz,11kv squirrel cage Induction Motor Up to**					
2-13-1	501 Kw to 750kw	Job				
2-13-2	750 to 1000 kw	Job				
2-13-3	1001 to 1250kw	Job				
2-13-4	1251 to 1500kw	Job				
2-13-5	1501 to 1750kw	Job				
2-13-6	1751 to 2000kw	Job				
2-13-7	2001 to 2250kw	Job				
2-13-8	2251to 2500kw	Job				
	Motor Heat Exchanger Repairs					
2-14-0	Job work of cleaning of motor radiator as per manufacturers instruction manual with all tools, tackles, consumables. This job includes removing of radiator from motor, cleaning of motor radiator, reapairs to tube, refitting of radiator to motor with test & trial complete					
2-14-1	upto 250 kw	Job				
2-14-2	251 to 500 kw	Job				
2-14-3	501 to 1000 kw	Job				
2-14-4	1001 to 2000 kw	Job				
2-14-5	2001 to 3000 kw	Job				
2-15-0	Job work of replacement of motor radiator core as per manufacturers instruction manual with all tools, tackles, consumables. This job includes removing of radiator from motor, replacement of motor radiator core, refitting of radiator to motor with test & trial complete.					
2-15-1	upto 250 kw	Job				
2-15-2	251 to 500 kw	Job				
2-15-3	501 to 1000 kw	Job				
2-15-4	1001 to 2000 kw	Job				
2-15-5	2001 to 3000 kw	Job				
	3.0 HT PANEL					
Item No	**Description of Item**	**Unit**	**Material**	**Labour**	**Total Rate**	**Remark**
	3.3KV INCOMER VCB PANEL					
	Supply of Incomer VCB Panel					
3-1-0	3.3KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110 DC, Spring Charging Motor -230V AC/DC with complete metering control and protection panel. VCB one No of following rating					

3-1-1	800 A, 26.5 kA	No				
3-1-2	800 A, 31.5 kA	No				
3-1-3	800 A, 40 kA	No				
3-1-4	1250 A, 26.5 kA	No				
3-1-5	1250 A, 31.5 kA	No				
3-1-6	1250 A, 40 kA	No				
	6.6KV INCOMER VCB PANEL					
3-2-0	6.6KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110/220V DC, Spring Charging Motor - 230V AC/DC with complete metering control and protection panel. VCB one No of following rating.					
3-2-1	800 A, 26.3 kA	No				
3-2-2	1250 A, 26.3 kA	No				
3-2-3	2000 A 26.3 kA	No				
3-2-4	800 A, 31.5 kA	No				
3-2-5	1250 A, 31.5 kA	No				
3-2-6	2000 A 31.5 kA	No				
3-2-7	800 A, 40 kA	No				
3-2-8	1250 A, 40 kA	No				
3-2-9	2000 A 40 kA	No				
3-2-10	2500A 40 kA	No				
3-2-11	3150 A 40 kA	No				
	11KV INCOMER VCB PANEL					
3-3-0	11KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110/220V DC, Spring Charging Motor - 230V AC/DC .with complete metering control and protection panel. VCB one No of following rating					
3-3-1	800 A, 26.5 kA	No				
3-3-2	1250 A, 26.5 kA	No				
3-3-3	2000 A 26.5 kA	No				
3-3-4	800 A, 31.5 kA	No				
3-3-5	1250 A, 31.5 kA	No				
3-3-6	2000 A 31.5 kA	No				
3-3-7	800 A, 40 kA	No				
3-3-8	1250 A, 40 kA	No				
3-3-9	2000 A 40 kA	No				
3-3-10	2500A 40 kA	No				
3-3-11	3150 A 40 kA	No				
	3.3KV BUS COUPLER VCB PANEL					

3-4-0	3.3KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110 DC, Spring Charging Motor -230V AC/DC with complete metering control and protection panel. VCB one No of following rating.					
3-4-1	800 A, 26.5 kA	No				
3-4-2	800 A, 31.5 kA	No				
3-4-3	800 A, 40 kA	No				
3-4-4	1250 A, 26.5 kA	No				
3-4-5	1250 A, 31.5 kA	No				
3-4-6	1250 A, 40 kA	No				
	6.6KV BUS COUPLER VCB PANEL					
3-5-0	6.6KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110 DC, Spring Charging Motor -230V AC/DC with complete metering control and protection panel. VCB one No of following rating.					
3-5-1	800 A, 26.3 kA	No				
3-5-2	1250 A, 26.3 kA	No				
3-5-3	2000 A 26.3 kA	No				
3-5-4	800 A, 31.5 kA	No				
3-5-5	1250 A, 31.5 kA	No				
3-5-6	2000 A 31.5 kA	No				
3-5-7	800 A, 40 kA	No				
3-5-8	1250 A, 40 kA	No				
3-5-9	2000 A 40 kA	No				
3-5-10	2500A 40 kA	No				
3-5-11	3150 A 40 kA	No				
	11KV BUS COUPLER VCB PANEL					
3-6-0	11KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110 DC, Spring Charging Motor -230V AC/DC with complete metering control and protection panel. VCB one No of following rating.					
3-6-1	800 A, 26.5 kA	No				
3-6-2	1250 A, 26.5 kA	No				
3-6-3	2000 A 26.5 kA	No				
3-6-4	800 A, 31.5 kA	No				
3-6-5	1250 A, 31.5 kA	No				
3-6-6	2000 A 31.5 kA	No				
3-6-7	800 A, 40 kA	No				
3-6-8	1250 A, 40 kA	No				
3-6-9	2000 A 40 kA	No				

3-6-10	2500A 40 kA	No				
3-6-11	3150 A 40 kA	No				
	3.3KV MOTOR FEEDER VCB PANEL					
3-7-0	3.3KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110/220V DC, Spring Charging Motor - 230V AC/DC.with complete metering control and protection panel. VCB one No of following rating.					
3-7-1	630A,26.5 KA	No				
3-7-2	800 A, 26.5 kA	No				
3-7-3	1250 A, 26.5 kA	No				
3-7-4	800 A, 31.5 kA	No				
3-7-5	1250 A, 31.5 kA	No				
3-7-6	800 A, 40 kA	No				
3-7-7	1250 A, 40 kA	No				
	6.6KV MOTOR FEEDER VCB PANEL					
3-8-0	6.6KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110/220V DC, Spring Charging Motor - 230V AC/DC. with complete metering control and protection panel. VCB one No of following rating.					
3-8-1	630A,26.5 KA	No				
3-8-2	800 A, 26.5 kA	No				
3-8-3	1250 A, 26.5 kA	No				
3-8-4	800 A, 31.5 kA	No				
3-8-5	1250 A, 31.5 kA	No				
3-8-6	800 A, 40 kA	No				
3-8-7	1250 A, 40 kA	No				
	11KV MOTOR FEEDER VCB PANEL					
3-9-0	11KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110/220V DC, Spring Charging Motor - 230V AC/DC.with complete metering control and protection panel. VCB one No of following rating.					
3-9-1	630A,26.5 KA	No				
3-9-2	800 A, 26.5 kA	No				
3-9-3	1250 A, 26.5 kA	No				
3-9-4	800 A, 31.5 kA	No				
3-9-5	1250 A, 31.5 kA	No				
3-9-6	800 A, 40 kA	No				
3-9-7	1250 A, 40 kA	No				
	3.3KV CAPACITOR FEEDER VCB PANEL					

3-10-0	3.3KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110/220V DC, Spring Charging Motor - 230V AC/DC.with complete metering control and protection panel. VCB one No of following rating.					
3-10-1	630A,26.5 KA	No				
3-10-2	800 A, 26.5 kA	No				
3-10-3	800 A, 31.5 kA	No				
3-10-4	800 A, 40 kA	No				
	6.6KV CAPACITOR FEEDER VCB PANEL					
3-11-0	6.6KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110/220V DC, Spring Charging Motor - 230V AC/DC.with complete metering control and protection panel. VCB one No of following rating.					
3-11-1	630A,26.5 KA	No				
3-11-2	800 A, 26.5 kA	No				
3-11-3	800 A, 31.5 kA	No				
3-11-4	800 A, 40 kA	No				
	11KV CAPACITOR FEEDER VCB PANEL					
3-12-0	11KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110/220V DC, Spring Charging Motor - 230V AC/DC.with complete metering control and protection panel. VCB one No of following rating.					
3-12-1	630A,26.5 KA	No				
3-12-2	800 A, 26.5 kA	No				
3-12-3	800 A, 31.5 kA	No				
3-12-4	800 A, 40 kA	No				
	3.3KV TRANSFORMER FEEDER VCB PANEL					
3-13-0	3.3KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110/220V DC, Spring Charging Motor - 230V AC/DC.with complete metering control and protection panel. VCB one No of following rating.					
3-13-1	630A,26.5 KA	No				
3-13-2	800 A, 26.5 kA	No				
3-13-3	800 A, 31.5 kA	No				
3-13-4	800 A, 40 kA	No				
	6.6KV TRANSFORMER FEEDER VCB PANEL					

3-14-0	6.6KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110/220V DC, Spring Charging Motor - 230V AC/DC.with complete metering control and protection panel. VCB one No of following rating.					
3-14-1	630A,26.5 KA	No				
3-14-2	800 A, 26.5 kA	No				
3-14-3	800 A, 31.5 kA	No				
3-14-4	800 A, 40 kA	No				
	11KV TRANSFORMER FEEDER VCB PANEL					
3-15-0	11KV Vacuum Circuit Breaker Draw out Type with safety shutter Closing & Tripping coil -110/220V DC, Spring Charging Motor - 230V AC/DC.with complete metering control and protection panel. VCB one No of following rating.					
3-15-1	630A,26.5 KA	No				
3-15-2	800 A, 26.5 kA	No				
3-15-3	800 A, 31.5 kA	No				
3-15-4	800 A, 40 kA	No				
3.16.0	**HT PANEL REPAIR**					
3-16-0	Supplying and erecting Draw out type vacuum circuit-Breaker suitable for installation on 6.6 KV, 3 phase, 50 Hz. A.C system with rated current as follows with motor charged spring closing mechanism and facility for remote operation.					
3-16-1	800 A, 26.5 kA	No.				
3-16-2	1250 A, 26.5 kA	No.				
3-16-3	2000 A 26.5 kA	No.				
3-16-4	800 A, 31.5 kA	No.				
3-16-5	1250 A, 31.5 kA	No.				
3-16-6	2000 A 31.5 kA	No.				
3-16-7	800 A, 40 kA	No.				
3-16-8	1250 A, 40 kA	No.				
3-16-9	2000 A 40 kA	No.				
3-16-10	3150 A 40 kA	No.				
3-17-0	Supplying and erecting Single phase,2 core current transformers of required ratio & burden, one core for metering Class-l accuracy, and 1 core for protection Class 5P-20 burden.					
3-17-1	100-200/1-1 A, 26.5 kA	No.				
3-17-2	201-500/1-1 A, 26.5 kA	No.				
3-17-3	501-1000/1-1 A, 26.5 kA	No.				
3-17-4	1001-2000/1-1 A, 26.5 kA	No.				
3-17-5	100-200/1-1 A, 31.5 kA	No.				
3-17-6	201-500/1-1 A, 31.5 kA	No.				

3-17-7	501-1000/1-1 A, 31.5 kA	No.				
3-17-8	1001-2000/1-1 A, 31.5 kA	No.				
3-17-9	2001-3000/1-1 A, 31.5 kA	No.				
3-17-10	100-200/1-1 A, 40 kA	No.				
3-17-11	201-500/1-1 A, 40 kA	No.				
3-17-12	501-1000/1-1 A, 40 kA	No.				
3-17-13	1001-2000/1-1 A, 40 kA	No.				
3-17-14	2001-3000/1-1 A, 40 kA	No.				
3-18-0	Supplying and erecting Single phase, 1 core current transformers of ratio 3200/1A, for protection Class PS, to be used for differential protection. The current Transformers will be with short time current rating of 40 KA for one second.					
3-18-1	100-200/1-1 A, 26.5 kA	No.				
3-18-2	201-500/1-1 A, 26.5 kA	No.				
3-18-3	501-1000/1-1 A, 26.5 kA	No.				
3-18-4	1001-2000/1-1 A, 26.5 kA	No.				
3-18-5	100-200/1-1 A, 31.5 kA	No.				
3-18-6	201-500/1-1 A, 31.5 kA	No.				
3-18-7	501-1000/1-1 A, 31.5 kA	No.				
3-18-8	1001-2000/1-1 A, 31.5 kA	No.				
3-18-9	2001-3000/1-1 A, 31.5 kA	No.				
3-18-10	100-200/1-1 A, 40 kA	No.				
3-18-11	201-500/1-1 A, 40 kA	No.				
3-18-12	501-1000/1-1 A, 40 kA	No.				
3-18-13	1001-2000/1-1 A, 40 kA	No.				
3-18-14	2001-3000/1-1 A, 40 kA	No.				
3-19	Supplying and erecting Three phase,1 core, potential transformers (P.T.s) to be star/star connected with ratio (6600 V/1.7321)/ (110V/1.7321), Class-I accuracy and rated burden 150 VA.	No.				
3-20	Supplying and erecting Spring back type Trip, neutral, close, circuit breaker control switch.	No.				
3-21	Supplying and erecting Indicating lamps, Red/Green/Amber	No.				
3-22	Supplying and erecting Blue indicating lamp	No.				
3-23	Supplying and erecting Panel mounting type digital ammeter having Three and half digit LED display, external C.T. operated, calibrated 0 to 3500A AC supply with calibration certificate from manufacturer.	No.				
3-24	Supplying and erecting Panel mounting type digital voltmeter of size 96 mm, scale 0 to 7 KV with calibration certificate from manufacturer .	No.				
3-25	Supplying and erecting High speed tripping relay.	No.				

3-26	Supplying and erecting Numerical relay for E/F+O/C protection, IDMTL relay with two elements, one for over current protection, having setting rang 50% to 200% on IDMTL unit: and other element for earth fault protection with setting range 20% to 80% on IDMTL unit: with common instantaneous setting range of 500% to 2000%. Under voltage protection relay.	No.				
3-27-0	**Supplying and erecting Motor Protection relays for following.**					
3-27-1	Static/ Numerical comprehensive motor protection relay consisting all motor protections (relay subject to approval by corporation)	No.				
3-27-2	Static type capacitors earth fault relay.	No.				
3-27-3	Under voltage relay with setting from 60 to 117 volts with time lag setting.	No.				
3-27-4	Time delay relays.	No.				
3-27-5	D.C. fail relay.	No.				
3-27-6	Auxiliary relay	No.				
3-28	Remote/Local selector switch, with locking arrangement.	No.				
3-29	Space heaters	No.				
3-30	Supplying and erecting Intelligent flush mounted Maximum Demand Controller panel meter three phase four wire 50-550 V Phase to phase Aux Supply 90-300VAC/DC CT secondary site selectable 1A/5A, CT /PT site programmable, class 1 Flush mounted 96 x 96 mm meter, Datalog 8MB, 4 realy output Time of Day (TOD) 6 slots available, block / sliding window site selectable with V, A, F, kW, kVA, kVAr, kWH, kVAh,kVArh, PF etc in LCD multi function meter with LCD display complete class -1 accuracy with RS 485 communication protocol with wiring connections and mounting hardware on provided panels complete with calibration certificate from manufacturer.	No.				
3-31	Terminal block	No.				
3-32	Terminal block 10 A	No.				
3-33	Terminal block 25 A	No.				
3-34	DIN rail	Mtr				
3-35	PVC Cable tray with cover	Mtr				
3-36	Closing coil, 110 V DC	No.				
3-37	Closing coil, 220 V DC	No.				
3-38	52 Contactor	No.				
3-39	Tripping coils 110 V DC	No.				
3-40	Tripping coils 220 V DC	No.				
3-41	HT Bushing , 6.6 kV	No.				
3-42	Replacement of control wiring of breaker	No.				

3-43-0	Supplying of 6.6 KV, H.T. Bolted type Heavy duty HRC Fuses having following capacity.	No.				
3-43-1	70 A	No.				
3-43-2	90 A	No.				
3-43-3	100 A	No.				
3-43-4	150 A	No.				
3-43-5	200A	No.				
3-43-6	250A	No.				
3-43-7	300A	No.				
3-44	Removing old damaged heat shrinkable insulating sleeves of 6.6 kv HT Busbar and Providing and fitting new 6.6 kv capacity HT heat shrinkable insulating sleeves to HT Aluminium bus bar size 50x10 mm of HT Panel.	Mtr				
3-45	providing and Supply of herbal pest control service for lizards of HT Panel, Soft Starters, Capacitors etc. including material, labour, handling charges etc. complete job at site	Job				
3-46	Providing & Fitting of Emergency Switch	No.				
	4.0 SOFT STARTER FOR INDUCTION MOTOR					
Item No.	**Description of Item**	**Unit**	**Material**	**Labour**	**Total Rate**	**Remark**
4-1-0	**FCMA Electrical Soft starter For Motor 3Ph, 50HZ ,415 Volt**					
4-1-1	100HP	No				
4-1-2	120HP	No				
4-1-3	150HP	No				
4-1-4	180HP	No				
4-1-5	200HP	No				
4-1-6	220HP	No				
4-1-7	250HP	No				
4-1-8	270HP	No				
4-1-9	300HP	No				
4-1-10	325HP	No				
4-1-11	350HP	No				
4-1-12	400HP	No				
4-1-13	425HP	No				
4-1-14	450HP	No				
4-1-15	500HP	No				
4-1-16	550HP	No				
4-1-17	600HP	No				
4-2-0	**FCMA Electrical Soft starter For Motor 3Ph, 50HZ ,3.3 KV HP/KW**					

4-2-1	338/250	No				
4-2-2	378/280	No				
4-2-3	425/315	No				
4-2-4	479/355	No				
4-2-5	540/400	No				
4-2-6	608/450	No				
4-2-7	675/500	No				
4-2-8	756/560	No				
4-2-9	851/630	No				
4-2-10	959/710	No				
4-2-11	1080/800	No				
4-2-12	1215/900	No				
4-2-13	1350/1000	No				
4-2-14	1512/1120	No				
4-3-0	**FCMA Electrical Soft starter For Motor 3Ph, 50HZ ,6.6KV HP/KW**					
4-3-1	338/250	No				
4-3-2	378/280	No				
4-3-3	425/315	No				
4-3-4	479/355	No				
4-3-5	540/400	No				
4-3-6	608/450	No				
4-3-7	675/500	No				
4-3-8	756/560	No				
4-3-9	851/630	No				
4-3-10	959/710	No				
4-3-11	1080/800	No				
4-3-12	1215/900	No				
4-3-13	1350/1000	No				
4-3-14	1512/1120	No				
4-3-15	1675/1200	No				
4-3-16	1675/1250	No				
4-3-17	17421300	No				
4-3-18	1809/1350	No				
4-3-19	1876/1400	No				
4-3-20	1943/1450	No				
4-3-21	2010/1500	No				
4-4-0	**FCMA Electrical Soft starter For Motor 3Ph, 50HZ ,11KV HP/KW**					
4-4-1	675/500	No				
4-4-2	756/560	No				
4-4-3	851/630	No				
4-4-4	959/710	No				

4-4-5	1080/800	No				
4-4-6	1215/900	No				
4-4-7	1350/1000	No				
4-4-8	1512/1120	No				
4-4-9	1675/1200	No				
4-4-10	1675/1250	No				
4-4-11	17421300	No				
4-4-12	1809/1350	No				
4-4-13	1876/1400	No				
4-4-14	1943/1450	No				
4-4-15	2010/1500	No				
4-4-16	2077/1550	No				
4-4-17	2144/1600	No				
4-4-18	221/1650	No				
4-4-19	2278/1700	No				
4-4-20	2345/1750	No				
4-4-21	2412/1800	No				
4-4-22	2479/1850	No				
4-4-23	2546/1900	No				
4-5-0	**Reparing of Soft Starters**					
4-5-1	Shifting of Soft Starter from site	Km				
4-5-2	Removing Rubber Gaskets of all Doors & Covers.	No.				
4-5-3	Removing all Components Mounted on Door.	No.				
4-5-4	Cleaning of all Doors, Covers & Enclosures to make suitable for spray painting.	No.				
4-5-5	Cleaning of all Internal Componants with Cleaning Chemicals.	No.				
4-5-6	Removing Dammaged Parts & Other Parts for Painting.	No.				
4-5-7	Spary Painting of Enclosure, Doors & Covers.	No.				
4-5-8	Supply & Fixing of Ammeter, Scale 0-900A(96x96mm)	No.				
4-5-9	Supply & fixing indicating Lamps Dia. 22.5mm LED Type 230V AC with Name Plates	No.				
4-5-10	Supply and fixing Push Button with NC Element Dia. 22.5mm	No.				
4-5-11	Supply and Fixing Thermostat, 30-90 Deg.	No.				
4-5-12	Supply and Fixing Space Heater 40W 230V AC	No.				
4-5-13	Supply and Fixing Aux. Contactors 230V AC	No.				
4-5-14	Supply and fixing Timers	No.				
4-5-15	Supply and fixing control Supply MCBs	No.				
4-5-16	Supply and Fixing Freewheeling diodes.	No.				
4-5-17	Supply and Fixing Current Sensing relay	No.				

4-5-18	Supply and Fixing Bypass device coil supervision relay	No.				
4-5-19	Supply and fixing Current Transformer	No.				
4-5-20	Supply and fixing Economy Resistor 300 ohms, 200 watts, wire wound	No.				
4-5-21	Supply & Fixing Auto Transformer 350 VA 230/110V, Taps at 120, 140V	No.				
4-5-22	Supplying & Fixing of MS Hardware for complete Panel & Busbar.	No.				
4-5-23	Repairing & Servicing of Bypass Device	No.				
4-5-24	Supply & fixing of PVC heat shrinkable Sleeve for	No.				
4-5-25	Supply & fixing of Rubber Gaskets for Doors &	No.				
4-5-26	Re-Assembly of Starter after Painting	Job				
4-5-27	Re-Wring of Damaged Parts.	Job				
4-5-28	Following tests after complete assembly & painting- a) Checking of all controls, logic & interlocks as per schematic wiring diagrams b) Checking of shorting device ON/OFF operation c) Checking all indications as per wiring diagram d) Checking of Bypass & Supervisory timer operations e) IR value checking of main power circuit f) HV test of complete power circuit with FCMA unit g) IR value checking of main power circuit after HV test h) No load trail with motor .	Job				
4-5-29	Making all Reports as per Requirement.	Job				
4-6-0	**Supply of Vacuum Contactor for 3.3 kV soft starter for motor**					
4-6-1	250 kW.	No.				
4-6-2	500 kW.	No.				
4-6-3	750 kW.	No.				
4-6-4	1000 kW.	No.				
4-7-0	**Supply of Vacuum Contactor for 6.6 kV soft starter for motor**					
4-7-1	250 kW.	No.				
4-7-2	500 kW.	No.				
4-7-3	750 kW.	No.				
4-7-4	1000 kW.	No.				
4-7-5	1250 kW.	No.				
4-7-6	1500 kW.	No.				
4-7-7	1750 kW.	No.				
4-7-8	2000 kW.	No.				
4-8-0	**Supply of Vacuum Contactor for 11 kV soft starter for motor**					
4-8-1	500 kW.	No.				

4-8-2	750 kW.	No.				
4-8-3	1000 kW.	No.				
4-8-4	1250 kW.	No.				
4-8-5	1500 kW.	No.				
4-8-6	1750 kW.	No.				
4-8-7	2000 kW.	No.				
4-8-8	2500 kW.	No.				
4-9-0	**Supply of New FCMA Module (Coils - incuding 3Phase) 3.3kv Soft Starter with old replacement**					
4-9-1	250 kW.	No.				
4-9-2	500 kW.	No.				
4-10-0	**Supply of New FCMA Module (Coils - incuding 3Phase) 6.6kv Soft Starter with old replacement**					
4-10-1	250 kW.	No.				
4-10-2	500 kW.	No.				
4-10-3	250 kW.	No.				
4-10-4	1000 kW.	No.				
4-10-5	1250 kW.	No.				
4-10-6	1500 kW.	No.				
4-10-7	1750 kW.	No.				
4-10-8	2000 kW.	No.				
4-11-0	**Supply of New FCMA Module (Coils - incuding 3Phase) 11kv Soft Starter with old replacement**					
4-11-1	250 kW.	No.				
4-11-2	500 kW.	No.				
4-11-3	250 kW.	No.				
4-11-4	1000 kW.	No.				
4-11-5	1250 kW.	No.				
4-11-6	1500 kW.	No.				
4-11-7	1750 kW.	No.				
4-11-8	2000 kW.	No.				
4-11-9	2500 kW.	No.				
	5.0 CAPACITOR- FOR INDUCTION MOTOR					
Item No.	**Description of Item**	**Unit**	**Material**	**Labour**	**Total Rate**	**Remark**
5-1-0	**Supply Erection Testing commissioning of 3.3KV , 3Ph,50Hz Capacitor Cubicle Panel including Capacitor Units,HRC Fuses ,Series Reactors of 0.2% ,Off Load Isolator, Bus Bar ,Epoxi Insulators etc. complete of 3.3KV Capacitor Bank of 3Nos x 1Phase of following rating**					
5-1-1	25 KVAR	No				
5-1-2	50 KVAR	No				

5-1-3	75 KVAR	No				
5-1-4	100 KVAR	No				
5-1-5	200 KVAR	No				
5-1-6	300 KVAR	No				
5-1-7	400 KVAR	No				
5-1-8	500 KVAR	No				
5-1-9	600 KVAR	No				
5-1-10	700 KVAR	No				
5-1-11	800 KVAR	No				
5-1-12	900 KVAR	No				
5-1-13	1000 KVAR	No				
5-2-0	**Supply Erection Testing commissioning of 6.6 KV , 3Ph,50Hz Capacitor Cubicle Panel including Capacitor Units,HRC Fuses ,Series Reactors of 0.2% ,Off Load Isolator, Bus Bar ,Epoxi Insulators etc. complete of 6.6KV Capacitor Bank of 3Nos x 1Phase of following rating**					
5-2-1	25 KVAR	No				
5-2-2	50 KVAR	No				
5-2-3	75 KVAR	No				
5-2-4	100 KVAR	No				
5-2-5	125KVAR	No				
5-2-6	150 KVAR	No				
5-2-7	175KVAR	No				
5-2-8	200 KVAR	No				
5-2-9	300 KVAR	No				
5-2-10	400 KVAR	No				
5-2-11	500 KVAR	No				
5-2-12	600 KVAR	No				
5-2-13	700 KVAR	No				
5-2-14	800 KVAR	No				
5-2-15	900 KVAR	No				
5-2-16	1000 KVAR	No				
5-3-0	**Supply Erection Testing commissioning of 11KV , 3Ph,50Hz Capacitor Cubicle Panel including Capacitor Units,HRC Fuses ,Series Reactors of 0.2% ,Off Load Isolator, Bus Bar ,Epoxi Insulators etc. complete of 11KV Capacitor Bank of 3Nos x 1Phase of following rating**					
5-3-1	25 KVAR	No				
5-3-2	50 KVAR	No				
5-3-3	75 KVAR	No				
5-3-4	100 KVAR	No				
5-3-5	125KVAR	No				
5-3-6	150 KVAR	No				

5-3-7	175KVAR	No				
5-3-8	200 KVAR	No				
5-3-9	300 KVAR	No				
5-3-10	400 KVAR	No				
5-3-11	500 KVAR	No				
5-3-12	600 KVAR	No				
5-3-13	700 KVAR	No				
5-3-14	800 KVAR	No				
5-3-15	900 KVAR	No				
5-3-16	1000 KVAR	No				
	Spares For Capacitor Panel					
5-4-0	**Supply of 3.3KV , 1Ph,50Hz Capacitor Units of following ratings**					
5-4-1	25 KVAR	No				
5-4-2	50 KVAR	No				
5-4-3	75 KVAR	No				
5-4-4	100 KVAR	No				
	Spares For Capacitor Panel					
5-5-0	**Supply of 6.6KV , 1Ph,50Hz Capacitor Units of following ratings**					
5-5-1	25 KVAR	No				
5-5-2	50 KVAR	No				
5-5-3	75 KVAR	No				
5-5-4	100 KVAR	No				
5-5-5	125 KVAR	No				
5-5-6	150 KVAR	No				
5-5-7	175 KVAR	No				
5-5-8	200 KVAR	No				
	Spares For Capacitor Panel					
5-6-0	**Supply of 11KV , 1Ph,50Hz Capacitor Units of following ratings**					
5-6-1	25 KVAR	No				
5-6-2	50 KVAR	No				
5-6-3	75 KVAR	No				
5-6-4	100 KVAR	No				
5-6-5	125 KVAR	No				
5-6-6	150 KVAR	No				
5-6-7	175 KVAR	No				
5-6-8	200 KVAR	No				
	Spares For Capacitor Panel					
5-7-0	**Supply of M.S. Cubicle Fabricated of 14/16 Gauge CRCA Sheet Powder Coated for housing capaciotrs 3Ph, 50HZ incuding Spring loaded off load Isolator, HRC Fuses, Aluminium Bus Bar with sleeves, ,Epoxi Insulators, Earthing arrangement etc. complete**					

5-7-1	For 3 PH, 50Hz, 3.3 KV Capacitor Bank	No				
5-7-2	For 3 PH, 50Hz, 6.6 KV Capacitor Bank	No				
5-7-3	For 3 PH, 50Hz, 11 KV Capacitor Bank	No				
	Spares For Capacitor Panel					
5-8-0	**Supply of spring loaded off load Isolator**					
5-8-1	For 3 PH, 50Hz, 3.3 KV Capacitor Bank	No				
5-8-2	For 3 PH, 50Hz, 6.6 KV Capacitor Bank	No				
5-8-3	For 3 PH, 50Hz, 11 KV Capacitor Bank	No				
	Spares For Capacitor Panel					
5-9-0	**Supply of Series Reactor,0.2% 3 Phase 50HZ. A.C.Resin Cast Copper Wound ,Natural Cooled Iron Core, Indoor, Dry Type.**					
5-9-1	For 3 PH, 50Hz, 3.3 KV Capacitor Bank	No				
5-9-2	For 3 PH, 50Hz, 6.6 KV Capacitor Bank	No				
5-9-3	For 3 PH, 50Hz, 11 KV Capacitor Bank	No				
	6.0 Temperature Scanner Panel					
Item NO.	**Description of Item**	**Unit**	**Material**	**Labour**	**Total Rate**	
6-0	**Temperature Scanner Panel**					
	Supplying and installing Temperature scanner suitable for operating at 110 V DC or 230 V AC mounted in a duly painted sheet metal enclosure provided with NO / NC relays for transmitting signal to VCBs for trippingwith audiable alarm for both windings and bearings RTDs with all other accessories for satifactory functioning of the system etc., complete as per specifications, terms and conditions of contract.	Each				
	9.0 Battery					
Item No	**Description of Item**	**Unit**	**Material**	**Labour**	**Total Rate**	**Remark**
9.00	**Valve Regulated Lead Acid (VRLA) battery.**					
9.10	Supply, installation, testing and commissioning of 2V, 100Ah, made of Polypropylene Co-polymer or any other acid resistant plastic container Valve Regulated Lead Acid (VRLA) battery.	No.				
9.20	Supply, installation, testing and commissioning of 2V, 150Ah, made of Polypropylene Co-polymer or any other acid resistant plastic container Valve Regulated Lead Acid (VRLA) battery.	No.				
9.30	Supply, installation, testing and commissioning of 2V, 180Ah, made of Polypropylene Co-polymer or any other acid resistant plastic container Valve Regulated Lead Acid (VRLA) battery.	No.				

9.40	Supply, installation, testing and commissioning of 2V, 300Ah, made of Polypropylene Co-polymer or any other acid resistant plastic container Valve Regulated Lead Acid (VRLA) battery.	No.				
9.50	Charges for inspection and testing of batteries for fault detection by expert technician.	per Visit				
	10.0 Battery Charger Panel					
Item No	**Description of Item**	**Unit**	**Material**	**Labour**	**Total Rate**	**Remark**
10.A. Battery Charger - Parallel redundant float cum boost charger 110V						
10A.1	Supplying and erecting space heater with thermostat suitable to operate on Single Phase AC supply 240V/50Hz with switch & glass fuse holder	Each				
10A.2	Supplying and erecting Potentiometer for adjustment of DC output voltage/current settings	Each				
10A.3	Supplying and erecting Semi Conductor fuses in the input to the rectifier bridge with fuse fail indicator					
a	16A	Each				
b	32A	Each				
c	63A	Each				
10A.4	Supplying and erecting current transduser for DC output current feedback to the controller/parallel sharing circuit	Each				
10A.5	Supplying and erecting current transduser for battery charging current feedback to controller	Each				
10A.6	Supplying and erecting LED indicators 24V	Each				
10A.7	Supplying and erecting Solid state electronic controller for SCR conduction with pulse transformer circuit	Each				
10A.8	Supplying and erecting Potentiometers for adjustment of DC output voltage/current settings	Each				
10A.9	Supplying and erecting Semi-conductor fuses in the input to the rectifier bridge with fuse fail indication	Each				
10A.10	Supplying and erecting Solid state electronic fuse monitor circuit with 240V/19V AC step down transformer for power supply with glass fuse with holder in the primary with multiplying relay	Each				
10A.11	Supplying and erecting Three phase, full wave, full controlled bridge connected rectifier assembly with snubber circuit.	Each				
10A.12	Supplying and erecting Bleeder resistance	Each				
10A.13	Supplying and erecting Filter circuit comprising of smoothing choke and capacitor bank with HRC cartridge fuse with fitting with fuse fail indication	Each				

10A.14	Supplying and erecting Solid state electronic fuse monitor circuit with 240V/19V AC step down transformer for power supply with glass fuse with holder in the primary with multiplying relay	Each				
10A.15	Supplying and erecting DC output voltage feedback circuit to controller circuit	Each				
10A.16	Supplying and erecting Solid state electronic circuit for charger failure (DC over voltage / under voltage) alarm and indication	Each				
10A.17	Supplying and erecting Blocking diode mounted on heat sink of adequate capacity in the rectifier positive output to isolate battery voltage from charger voltage	Each				
10A.18	Supplying and erecting Solid state electronic circuit (AFB) for auto changeover from float to boost mode and vice versa	Each				
10A.19	Supplying and erecting 240V AC / 19 V -0-19V step down transformer for power supply to AFB circuit	Each				
10A.20	Supplying and erecting Solid state electronic circuit for Battery earth fault alarm and indication with toggle switch and miliammeter	Each				
10A.21	Supplying and erecting Solid state electronic circuit for battery ON Load alarm and indication with 24V/19V-0-19V DC – DC converter for auxiliary power supply	Each				
10A.22	Supplying and erecting Silicon blocking diode (75A) connected to an intermediate cell to maintain continuity of DC supply to the load in the event of AC mains failure during boost charge	Each				
10A.23	Charges for inspection and testing of battery charger for fault detection by expert technician.	per Visit				
10B. Battery Charger - Parallel redundant float cum boost charger 220V						
10B.1	Supplying and erecting space heater with thermostat suitable to operate on Single Phase AC supply 240V/50Hz with switch & glass fuse holder	Each				
10B.2	Supplying and erecting Potentiometer for adjustment of DC output voltage/current settings	Each				
10B.3	Supplying and erecting Semi Conductor fuses in the input to the rectifier bridge with fuse fail indicator					
a	16A	Each				
b	32A	Each				
c	63A	Each				
10B.4	Supplying and erecting current transduser for DC output current feedback to the controller/parallel sharing circuit	Each				

10B.5	Supplying and erecting current transduser for battery charging current feedback to controller	Each				
10B.6	Supplying and erecting LED indicators 24V	Each				
10B.7	Supplying and erecting Solid state electronic controller for SCR conduction with pulse transformer circuit	Each				
10B.8	Supplying and erecting Potentiometers for adjustment of DC output voltage/current settings	Each				
10B.9	Supplying and erecting Semi-conductor fuses in the input to the rectifier bridge with fuse fail indication	Each				
10B.10	Supplying and erecting Solid state electronic fuse monitor circuit with 240V/19V AC step down transformer for power supply with glass fuse with holder in the primary with multiplying relay	Each				
10B.11	Supplying and erecting Three phase, full wave, full controlled bridge connected rectifier assembly with snubber circuit.	Each				
10B.12	Supplying and erecting Bleeder resistance	Each				
10B.13	Supplying and erecting Filter circuit comprising of smoothing choke and capacitor bank with HRC cartridge fuse with fitting with fuse fail indication	Each				
10B.14	Supplying and erecting Solid state electronic fuse monitor circuit with 240V/19V AC step down transformer for power supply with glass fuse with holder in the primary with multiplying relay	Each				
10B.15	Supplying and erecting DC output voltage feedback circuit to controller circuit	Each				
10B.16	Supplying and erecting Solid state electronic circuit for charger failure (DC over voltage / under voltage) alarm and indication	Each				
10B.17	Supplying and erecting Blocking diode mounted on heat sink of adequate capacity in the rectifier positive output to isolate battery voltage from charger voltage	Each				
10B.18	Supplying and erecting Solid state electronic circuit (AFB) for auto changeover from float to boost mode and vice versa	Each				
10B.19	Supplying and erecting 240V AC / 19 V -0-19V step down transformer for power supply to AFB circuit	Each				
10B.20	Supplying and erecting Solid state electronic circuit for Battery earth fault alarm and indication with toggle switch and miliammeter	Each				

10B.21	Supplying and erecting Solid state electronic circuit for battery ON Load alarm and indication with 24V/19V-0-19V DC – DC converter for auxiliary power supply	Each				
10B.22	Supplying and erecting Silicon blocking diode (75A) connected to an intermediate cell to maintain continuity of DC supply to the load in the event of AC mains failure	Each				
10B.23	Charges for inspection and testing of battery charger for fault detection by expert technician.	per Visit				
	11.0 D.C. Distribution Board					
Item No	**Description of Item**	**Unit**	**Material**	**Labour**	**Total Rate**	**Remark**
11.00	**D.C. Distribution Board**					
11.10	Supplying and erecting mains failure alarm relay 24V	Each				
11.20	Supplying and erecting earth fault alarm relay 24V	Each				
11.30	Supplying and erecting D.C. bell to be operated by the failure alarm relay 24V	Each				
11.40	Supplying and erecting D.C. buzzer to be operated by the earth fault alarm relay 24V	Each				
11.50	Supplying and erecting double pole Air break Circuit Breaker of 100 Amp/ 200 Amp. capacity with thermal overload tripping arrangemnet to act as incoming breaker of the load bus					
a	100A capacity	Each				
b	200A capacity	Each				
11.60	Supplying and erecting 0-150 / 0-250 volts D.C. moving coil voltmter to measure the busbar voltage					
a	0-150V capacity	Each				
b	0-250V capacity	Each				
11.7	Supplying and erecting pilot lamp to indicate DC ON condition	Each				
11.8	Supplying and erecting 250 volts double pole double throw made before break switch with HRC fuses for outgoing feeder					
a	63 Amp.	Each				
b	32 Amp.	Each				
c	16 Amp.	Each				
11.90	Supplying and erecting 500 volts tripple pole double throw made before break switch with HRC fuses for outgoing feeder					
a	63 Amp.	Each				
b	32 Amp.	Each				
c	16 Amp.	Each				
11.10	Supplying and erecting Terminal board/block for all feeder outlets including cable glands	Each				
11.11	Supplying and erecting A.C./D.C. change over contacts	Each				

11.12	Charges for inspection and testing of DCDB for fault detection by expert technician.	per Visit				
	12.0 EOT Cranes					
Item No	**Description of Item**	**Unit**	**Material**	**Labour**	**Total Rate**	**Remark**
12.00	**EOT Crane**					
12.10	Replacement of moving type 8way push button Pendant box for ON/OFF, Long travel, Cross travel & Hoist motions with necessary trial.	Job				
12.20	Replacement of 20 mtr 1.5 Sq.mm 10 core flexible Copper cable of 650V grade	Job				
12.30	Replacement of overtravel limit switch lever type IP 65 with necessary trial.	No.				
12.40	Charges for certification of Cranes from appropriate authorised authority.	No.				
12.50	Providing, installation, commissioning & testing on site, etc of Pump house Double Girder EOT crane 15T/5T capacity, span 6M to 8M and Lift upto 14M including LT Beam Assembly-20 Mtr and Bus bar/ DSL shrouded contactor system- 20 Mtr	Job				
12.60	Providing, installation, commissioning & testing on site, etc of Pump house Double Girder EOT crane 15T/5T capacity, span 8M to 10M and Lift upto 14M including LT Beam Assembly-20 Mtr and Bus bar/ DSL shrouded contactor system- 20 Mtr	Job				
12.70	Providing, installation, commissioning & testing on site, etc of Pump house Double	Job				
12.80	Providing, installation, commissioning & testing on site, etc of Pump house Double Girder EOT crane 20T/5T capacity, span 8M to 10M and Lift upto 14M including LT Beam Assembly-20 Mtr and Bus bar/ DSL shrouded contactor system- 20 Mtr	Job				
12.90	Providing, installation, commissioning & testing on site, etc of Pump house Double Girder EOT crane 25T/5T capacity, span 6M to 8M and Lift upto 14M including LT Beam Assembly-20 Mtr and Bus bar/ DSL shrouded contactor system- 20 Mtr	Job				
12.10	Providing, installation, commissioning & testing on site, etc of Pump house Double Girder EOT crane 25T/5T capacity, span 8M to 10M and Lift upto 14M including LT Beam Assembly-20 Mtr and Bus bar/ DSL shrouded contactor system- 20 Mtr	Job				
12.11	Providing, installation, commissioning & testing on site, etc of Pump house Double Girder EOT crane 30T/5T capacity, span 6M to 8M and Lift upto 14M including LT Beam Assembly-20 Mtr and Bus bar/ DSL shrouded contactor system- 20 Mtr	Job				

12.12	Providing, installation, commissioning & testing on site, etc of Pump house Double Girder EOT crane 30T/5T capacity, span 8M to 10M and Lift upto 14M including LT Beam Assembly-20 Mtr and Bus bar/ DSL shrouded contactor system- 20 Mtr	Job				
	14.0 Valve Actuator					
Item No	**Description of Item**	**Unit**	**Material**	**Labour**	**Total Rate**	**Remark**
14.00	**Actuator**					
14.10	Charges for resetting of Limit switch / torque switch by technician	Each				
14.20	Charges for resetting of mechanical position indicator by technician	Each				
14.30	Servicing including change of blown fuses, retightening of bolts between actuator and valve/gearbox, lubricating with appropriate greese at greese points and test run of actuator.	Each				
14.40	Charges for inspection and test run of actuator for fault detection by technician.	Each				
14.50	Providing, erecting electric Valve actuators totally enclosed, weather-proof and dust proof construction with IP-67, protection class suitable for installation in any position without lubrication, leakage or other operational difficulty Electric Actuator for Butterfly valves of PN 1/ 1.6 rating.					
a	Size 500mm	Job				
b	Size 600mm	Job				
c	Size 700mm	Job				
d	Size 800mm	Job				
e	Size 900mm	Job				
f	Size 1000mm	Job				
g	Size 1100mm	Job				
h	Size 1200mm	Job				
i	Size 1300mm	Job				
j	Size 1400mm	Job				
k	Size 1500mm	Job				
	15.0 L.T.Switchgear					
Item No	**Description of Item**	**Unit**	**Material**	**Labour**	**Total Rate**	**Remark**
	15.1 Current Transformer					
15.11	Providing and erecting L.T. Current Transformer with bar primary 800/1 ratio with 30VA burden erected in provided CRCA box duly secured with insulating materials connected to the meter with test certificates.	No.				

15.12	Providing and erecting L.T. Current Transformer with bar primary 400/1 ratio with 10VA burden erected in provided CRCA box duly secured with insulating materials connected to the meter with test certificates.	No.				
15.13	Providing and erecting L.T. Current Transformer with bar primary 300/1 ratio with 7.5 VA burden erected in provided CRCA box duly secured with insulating materials connected to the meter with test certificates.	No.				
15.14	Providing and erecting L.T. Current Transformer with bar primary 200/1 ratio with 7.5 VA burden erected in provided CRCA box duly secured with insulating materials connected to the meter with test certificates.	No.				
15.15	Providing and erecting L.T. Current Transformer with bar primary 150/1 ratio with 7.5 VA burden erected in provided CRCA box duly secured with insulating materials connected to the meter with test certificates.	No.				
15.16	Providing and erecting L.T. Current Transformer with bar primary 100/1 ratio with 30VA burden erected in provided CRCA box duly secured with insulating materials connected to the meter with test certificates.	No.				
15.17	Providing and erecting L.T. Current Transformer with bar primary 30/1 ratio with 1 VA burden erected in provided CRCA box duly secured with insulating materials connected to the meter with test certificates.	No.				
	15.2 Push Buttons					
15.21	22.5 mm diameter TK3 type Shrouded Push button actuator (a packet of 30 push buttons)	No.				
	15.3 Triple pole metal clad HRC fuse switch					
15.31	Supplying and erecting triple pole metal clad HRC fuse switch 415V, 2A with neutral link with HRC fuses on angle iron/GI frame as per specification no. SW-SWR/TPHRC.	No.				
15.32	Supplying and erecting triple pole metal clad HRC fuse switch 415V, 4A with neutral link with HRC fuses on angle iron /GI frame as per specification no. SW-SWR/TPHRC.	No.				
	15.4 Hour Meter					
15.41	Supplying and erecting Hour meter (Digital type)	No.				
	15.5 HRC fuse cartridge					
15.51	Supplying & erecting HRC fuse cartridge 415V 2A complete.	No.				
15.52	Supplying & erecting HRC fuse cartridge 415V 4A complete.	No.				

15.53	Supplying & erecting HRC fuse cartridge 415V 10A complete.	No.				
15.54	Supplying & erecting HRC fuse cartridge 415V 16A complete.	No.				
	15.6 Announciator					
15.61	Supplying, erecting, Testing and commissioning Announciator - 4 window (230VAC)	No.				
15.62	Supplying, erecting, Testing and commissioning Announciator - 12 window (230VAC)	No.				
15.63	Supplying, erecting, Testing and commissioning Announciator - 16 window (230VAC)	No.				
	15.7Contactor					
15.71	Supplying and erecting contactor for motor starter suitable for 125 H.P. to 150 H.P.	No.				
15.72	Supplying and erecting contactor for motor starter suitable for 150 H.P. to 200 H.P.	No.				
15.73	Supplying and erecting contactor for motor starter suitable for 200 H.P. to 250 H.P.	No.				
15.74	Supplying and erecting contactor for motor starter suitable for 250 H.P. to 300 H.P.	No.				
15.75	Supplying and erecting contactor for motor starter suitable for 300 H.P. to 350 H.P.	No.				
15.76	Supplying and erecting contactor for motor starter suitable for 350 H.P. to 400 H.P.	No.				
	15.8 Thermal Overload Relay					
15.81	Supplying and erecting thermal Overload Relay for motor starter suitable for 125 H.P. to 150 H.P.	No.				
15.82	Supplying and erecting thermal Overload Relay for motor starter suitable for 150 H.P. to 200 H.P.	No.				
15.83	Supplying and erecting thermal Overload Relay for motor starter suitable for 200 H.P. to 250 H.P.	No.				
15.84	Supplying and erecting thermal Overload Relay for motor starter suitable for 250 H.P. to 300 H.P.	No.				
15.85	Supplying and erecting thermal Overload Relay for motor starter suitable for 300 H.P. to 350 H.P.	No.				
15.86	Supplying and erecting thermal Overload Relay for motor starter suitable for 350H.P. to 400 H.P.	No.				
	15.9 On Delay Timer					
15.91	Supplying, erecting, Testing and commissioning On Delay Timer	No.				
	15.10 Relay					
15.01	Supplying, erecting, Testing and commissioning Under voltage Relay	No.				
15.02	Supplying, erecting, Testing and commissioning over voltage relay	No.				
	15.11Meter					

15.11	Supplying, erecting, Testing and commissioning Digital Ammeter,96 x 96mm, Panel Mounting Type, Three and Half LED Display with External CT operated, Scale : 0-400/999.9 A,CT Ratio – 400/1A Or Suitable to operate on existing CT	No.				
15.11	Supplying, erecting, Testing and commissioning Digital Voltmeter, 96 x 96mm, Panel Mounting Type, Three and Half LED Display Suitable to operate on 500V, Scale : - 0-750V MAX999.9V Or Suitable to operate on existing PT	No.				
	15.12 Power Contactor					
15.12	Supplying, erecting, Testing and commissioning Power Contactor 3Pole, 185A, AC3Duty with Aux. contacts, Coil Voltage 230 Voltage AC,	No.				
	15.13 Power factor meter					
15.13	Supplying, erecting, Testing and commissioning power factor meter 150 mm dia flush or projection type suitable for 400 Volt 50 Hz, 3 phase 4 wire balanced or unbalanced load to work with appropriately provided CTs 100/5 Amp to 400/5 Amp ratio and other accessories complete erected in provided MS box and connected to the circuit by means of PVC copper leads.	No.				
	15.14 Fire Extinguisher					
15.14	Refilling of D.C.P. type Fire Extinguisher 5 kg capacity cartridge type with Gun Metal cap 150 gram CO2 gas cartridge, powder and brackets	No.				
15.14	Refilling of Carbon Dioxide (CO2) fire extinguisher of 4.5 kg. Capacity Cartridge type	No.				
15.14	Refilling of ABC powder type 'Ceasefire' type fire extinguisher of 1 kg capacity	No.				
15.14	Replacement of Hose pipe for D.C.P. type Fire Extinguisher 5 kg capacity cartridge type	No.				
	15.15 RTD (Resistance Temperature Detector)					
15.15	Checking RTD (Resistance Temperature Detector) of motor winding and bearing.	Job.				
15.15	Providing, replacing, Testing, Trial and Commissioning of Motor RTD (Resistance Temperature Detector).	Job.				
	15.16 Service of expert charges					
15.16	Service of expert charges for inspection, checking of logic circuit and fault finding of LT panels up to 11 kV for per panel like Incomer feeder panel, Capacitor feeder panel, Motor feeder panel etc. as per site conditions.	Job.				
15.16	Service of expert charges for inspection, checking of logic circuit and fault finding of Temperature Scanner panels up to 11 kV as per site conditions.	Job.				

15.16	Service of expert charges for inspection, checking of logic circuit and fault finding of Control panel up to 11 kV as per site conditions.	Job.				