

Schedule of Work						
N/W:-	MOEI and Fans and RMO DG set, Pumps & lift etc. at Museum cum office building and Residential building for ZSI Solan. (S.H:- Miscellaneous EI and AC Work)					
Sr. No.	Description	Qty		Rate	Unit	Amount
1	Wiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable in surface/ recessed steel conduit, with modular switch, modular plate, suitable GI box and earthing the point with 1.5 sq.mm FRLS/HFFR PVC insulated copper conductor single core cable etc. as required.					
	Group C	2.00	Nos	2101.00	Each	4202.00
2	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required.					
a)	5/6 A switch	160.00	Nos	121.00	Each	19360.00
b)	2 way 5/6 A switch	5.00	Nos	168.00	Each	840.00
c)	15/16 A switch	10.00	Nos	176.00	Each	1760.00
d)	3 pin 5/6 A socket outlet	40.00	Nos	136.00	Each	5440.00
e)	6 pin 15/16 A socket outlet	10.00	Nos	219.00	Each	2190.00
3	Supplying and fixing two module stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.	36.00	Nos	402.00	Each	14472.00
4	Supplying and fixing modular blanking plate on the existing modular plate & switch box excluding modular plate as required.	40.00	Nos	47.00	Each	1880.00
5	Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc. as required.					
a)	1 or 2 Module (75mmX75mm)	18.00	Nos	354.00	Each	6372.00
b)	4 Module (125mmX75mm)	1.00	Nos	401.00	Each	401.00
c)	6 Module (200mmX75mm)	3.00	Nos	462.00	Each	1386.00
d)	8 Module (125mmX125mm)	25.00	Nos	517.00	Each	12925.00
e)	12 Module (200mmX150mm)	10.00	Nos	614.00	Each	6140.00
6	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 2 nos. 3 pin 5/6 A modular socket outlet and 2 nos. 5/6 A modular switch, connections etc. as required. (For light plugs to be used in non residential buildings).	10.00	Nos	757.00	Each	7570.00
7	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 & 15/16 A modular socket outlet and 15/16 A modular switch, connections etc. as required.	50.00	Nos	659.00	Each	32950.00
8	LED Down lighter (SMD Type) (System lumen efficacy $\geq 105 < 120$ lm/Watt) Supplying, Installation, Testing & Commissioning of LED Recessed/ surface Down lighter (Round/square / Rectangular) SMD type of following body material with PMMA and prismatic diffuser and construction as per IS : 10322 with driver as per the requirement with Driver efficiency $>85\%$, Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range -50C to 400C, internal surge protection of 2.5 KV with Short & Open circuit protection ,THD $< 10\%$, P. F. ≥ 0.95 , IP20, CRI >80 , UGR (Unified Glare Rating) < 19 , Flicker free (flicker should be below 5%), life time (LED, Driver & electrical circuitry), of minimum 50000 Burning Hours with 70% of initial Lumen maintained till life ends, CCT 3000°K /4000°K / 5700°K / 6500°K (As per ANSI Bin), SDCM (Standard Deviation Colour Matching) <3 , Maximum power consumption should not more than the specified rating and Fixture shall be confirming to relevant BIS standards. Manufactures Word Mark /Name Engraved / Embossing /Screen printing on housing. Complete in all respect i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty.System					

Sr. No.	Description	Qty		Rate	Unit	Amount
	lumen efficacy ≥ 105 and < 120 lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C) Powder coated die cast /Extruded aluminium Body including trim.					
(a)	12 -15 watt	62.00	Nos	715.00	Each	44330.00
9	LED Panel light 2x2 ft. (System lumen efficacy ≥ 105 < 120 lm/Watt) Supplying, installation, Testing & Commissioning of Panel light 2x2 ft., of following body material and construction as per IS : 10322 with driver as per the requirement with Driver efficiency $> 85\%$, Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range -5 0C to 40 0C, internal surge protection of 2.5 KV with Short & Open circuit protection , THD $< 10\%$, P. F. ≥ 0.95 , IP20,CRI > 80 ,UGR (Unified Glare Rating) < 19 , Flicker free, (flicker should be below 5 %), life time (LED, Driver & electrical circuitry), of minimum 50000 Burning Hours with, 70% of initial Lumen maintained till life ends as per LM80 extrapolation IES TM-21-11 report, CCT 3000°K / 4000°K / 5700°K /6500°K (As per ANSI Bin), SDCM (Standard Deviation Colour Matching) < 3 , Maximum power consumption should not more than the specified rating and Fixture shall be of relevant BIS standard. Manufactures Word Mark / Name Engraved/ Embossing/ Screen printing on housing. complete in all respect i/c external connections with 1.5 sq mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required with Minimum 5 year OEM warranty. System lumen efficacy ≥ 105 < 120 lm/Watt output . LM79 & LM80 Test report and all testing required for LED fixtures as per BIS shall be submitted. Shape size and CCT shall be as approved by Engineer-in-Charge as per requirement. (Thermal management : heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast /Extruded aluminium Body (Thickness > 1.20 mm)					
(a)	36 watt	45.00	Nos	2508.00	Each	112860.00
10	Supplying, installation, testing, and commissioning of 17W, 2-foot (600mm) wall-mounted Linear LED Mirror Light fixture, operating on 220V–240V, 50Hz AC supply. The fixture shall have a color temperature of 3000K (Warm White), minimum luminous efficiency of 100 lm/W (minimum 1700 Lumens output), integrated driver, glare-free diffuser, and IP20 rating. Scope includes mounting on vanity/dressing mirrors using standard brackets, fasteners, and connecting to existing wiring, complete as per direction of the Engineer-in-Charge	10.00	Nos	695.00	Each	6950.00
11	SITC of 3 phase centrifugal monoblock pump set with energy efficient motor having copper winding of minimum 7.5 HP with minimum head rang of 35-54 mtrs, flow rate 450-200 LPM, 3000rpm suitable for 415V, 50Hz AC voltage supply for lifting water complete with necessary accessories like GI Union, socket, Bend, Nipple complete including dismentling of exisitng pumpset etc as required.	1.00	Nos	37406.00	Each	37406.00
12	Supplying of following size PVC insulated and PVC sheathed / XLPE aluminium armoured power cable of 1.1 KV grade of following size etc. as required.					
a)	2x10 sq.mm	60.00	Mtr.	220.00	P/Mtr	13200.00
(b)	3.5Cx25 sq.mm	45.00	Mtrs	411.00	P/Mtr	18495.00
13	Laying and fixing of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size on wall surface as required.					
a)	Upto 35 sq. mm (clamped with 1mm thick saddle)	90.00	Mtrs	64.00	P/Mtr	5760.00

Sr. No.	Description	Qty		Rate	Unit	Amount
14	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size in the existing RCC/ HUME/ METAL pipe as required.					
a)	Upto 35 sq. mm	15.00	Mtrs	47.00	P/Mtr	705.00
15	Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing along with existing surface/ recessed conduit/ submain wiring/ cable as required.	150.00	Mtrs	50.00	P/Mtr	7500.00
16	Supplying and laying of following size DWC HDPE pipe ISI marked along with all accessories like socket, bend, couplers etc. conforming to IS 14930, Part II complete with fitting and cutting, jointing etc. in the existing trench, complete as required.					
(a)	63 mm dia (OD-63 mm & ID-51 mm nominal)	15.00	Mtrs	136.00	P/Mtr	2040.00
17	Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required.					
a)	2 X 10 sq. mm (19mm)	30.00	Nos	295.00	Each	8850.00
b)	3½ X 25 sq. mm (28mm)	2.00	Nos	371.00	Each	742.00
18	Supplying, installation, testing & commissioning of Star-Delta Starter suitable for 7.5 HP 3 phase centrifugal motor pump set , having start stop switch, auto selector switch, supply & motor on/off indicator & Amp meter, Voltmeter set i/c connection with PVC insulated copper wires including mounting on wall and dismantling of existng DOL Starter complete etc. as reqd.	2.00	Set	14212.00	P/Set	28424.00
19	Providing and laying in position cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) in foundation of pump, DG set, Panel etc including form work etc as required.	0.50	Cum	7878.50	P/Cum	3939.25
20	Pdg. and fixing hot pressed modled SMC junction box of size 280 mm x 170mm x 115 mm outer size 240 mm x 130mm x 95 mm, inner size complete with 2 nos 25 mm x 3 mm x 100 mm long suitable aluminium bus bar-and 1 no 6 amp SP MCB " C" curve on existing pole/ wall with din bar and 4 nos insulator 25 mm on existing pole /wall with clamp/ fastner of size 256 mm x 3 mm duly primer & painted and nut bolt complete etc as required.	25.00	Nos	1392.00	Each	34800.00
21	Supplying, Installation, Testing and commissioning of Astronomical time switch of following configuration to be mounted in feeder pillars / Lighting DBs for automatic switching On & OFF of street lights at sun set & sun rise or twilight (Auto ON, Auto OFF, Auto modes) with manual override facility with 12/24 hour display format with suitable battery and indication for relay status i/c programming at site complete as required.					
a)	3 output(1output per phase) and suitable for three phase supply	1.00	Nos	11161.00	Each	11161.00
22	Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
a)	Single pole	10.00	Nos	285.00	Each	2850.00
23	Supplying, installation, testing and commissioning of 250 mm dia fresh air fan with louvers / shutters in plastic /ABS body suitable for 230 V single phase 50 HZ AC supply making necessary mounting arrangement connection testing etc, as required.	2.00	Nos	1596.00	Each	3192.00
24	Supplying, installation, testing and commissioning of metalic exhaust fan of 300 mm sweep i/c louvers / shutters in the existing opening, including making the hole to suit the size of the above fan, making good the damage, connection, testing, commissioning etc. as required.	3.00	Nos	2027.00	Each	6081.00

Sr. No.	Description	Qty		Rate	Unit	Amount
25	Brush Less Direct Current (BLDC) Fan with Remote Supply, Installation, Testing and Commissioning of ceiling fan with Brush Less Direct Current (BLDC) Motor, class of insulation: B, 3 nos. metal(Aluminium alloy) blades, 30 cm long down rod, 2 nos. canopies, shackle kit, safety rope, copper winding, steel/Al body. Power Factor not less than 0.9, Service Value (CM/M/W) minimum as below, 350 RPM (tolerance as per IS : 374-2019), THD (Total Harmonic Distortion) less than 10%, remote (preferably mobile app based) for speed control and all remaining accessories including safety pin, nut bolts, washers, temperature rise=75 0C (max.), insulation resistance more than 2 mega ohm, suitable for 230 V, 50 Hz, single phase AC supply Ceiling Fan compliant to IS 374:2019 fan i/c external connections with 1.5 sq.mm FRLS/HFFR, PVC insulated copper conductor single core cable and earthing etc. as required.					
a)	1200mm, service value ≥ 6.0 CM/Min/Watt, air delivery 210 CM/Min (Minimum)	5.00	Nos	2882.00	Each	14410.00
26	Supplying and fixing of 400 mm sweep cabin fan wall mounting (ISI Marked) with in built speed regulator suitable for 230 volt single phase AC supply as including connections etc as required at site.	1.00	Nos.	2677.00	Each	2677.00
	SH-2(AC Work)					
27	Supply and charging of R-410A or ecofriendly gas in the cassette Type Air Conditioning unit including pressure testing, leak Detection, vacuumisation, replacement of filter and capillary testing and commissioning etc as reqd.	10.00	Kg	874.00	P/Kg	8740.00
28	Servicing and cleaning of indoor cassette AC units of following capacity includes thorough foam jet cleaning using a non-acidic cleaning agent such as Vemiclean or equivalent approved chemical. The work involves cleaning of evaporator coils, air filters, blower wheel, drain tray, and all accessible internal and external parts to remove dust, dirt, and sludge buildup and also includes cleaning and flushing of the drainage system to ensure proper water flow and prevention of leakage, Nitrogen gas pressure Testing, vacuumization for leakage and repairing work, along with light lubrication of movable parts wherever required also include electrical connections are to be checked and tightened, and basic functional checks of fan, blower, and cooling performance are to be carried out after cleaning, the unit shall be tested and operated to ensure proper cooling and smooth functioning without noise or leakage etc complete as required.					
(a)	2/3/3.5 TR Capacity (Cassette type)	12.00	Nos	899.00	Each	10788.00
29	Servicing and cleaning of outdoor cassette AC units of following capacity includes thorough foam jet cleaning using a non-acidic cleaning agent such as Vemiclean or equivalent approved chemical. The work involves cleaning of condenser coils, air filters, blower wheel, drain tray, and all accessible internal and external parts to remove dust, dirt, and sludge buildup and also includes cleaning and flushing of the drainage system to ensure proper water flow and prevention of leakage, Nitrogen gas pressure Testing, vacuumization for leakage and repairing work, along with light lubrication of movable parts wherever required also include electrical connections are to be checked and tightened, and basic functional checks of fan, blower, and cooling performance are to be carried out after cleaning, the unit shall be tested and operated to ensure proper cooling and smooth functioning without noise or leakage etc complete as required.					
(a)	8 /11 TR Capacity Outdoor unit	3.00	Nos	1824.00	Each	5472.00

Sr. No.	Description	Qty		Rate	Unit	Amount
30	Supplying, Installation, testing and commissioning including vaccumiazation and Nitrogen testing of following nominal sizes of soft/hard drawn copper refrigerant piping for VRV/VRF system, complete with fittings, with suitable adjustable ring type hanger supports, jointing/brazing including accessories, insulated with XPLE Class-O tubular insulation/with Class-O closed cell elastometric nitrile rubber tubular sleeves sections of 19 mm thick insulation as given below for Suction and Liquid lines, all accessories					
(a)	9.5 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm	5.00	Mtrs	346.00	P/Mtr	1730.00
(b)	12.7 mm dia (OD) (Soft drawn) with tube thickness 1.2 mm	5.00	Mtrs	487.00	P/Mtr	2435.00
(c)	22.2 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm	5.00	Mtrs	904.00	P/Mtr	4520.00
(d)	28.58 mm dia (OD) (Hard drawn) with tube thickness 1.2 mm	5.00	Mtrs	1157.00	P/Mtr	5785.00
31	Providing and Fixing of 4 core X 2.5 Sqmm copper conductor, PVC insulated, PVC sheathed, flexible control cable for connection, interconnection on surface complete etc. as required.	30.00	Mtrs	329.00	P.Mtr.	9870.00
	Total					533600.25
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