

Schedule of work

Name of work : Providing IEI, fans, power wiring, CCTV & fire extinguisher at burnout directors room and surrounding area of director room due to fire incidence at Regional Centre for Organic & Natural Farming (RCONF), Gondkhairy, Nagpur.

S.N.	Description of Item	Qty	Unit	Rate	Amount	Remark
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					
1.1	Group C	25	Point	2101.00	52525.00	1.3.3
2	Rewiring for light point/ fan point/ exhaust fan point/ call bell point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable and 1.5 sq.mm. FRLS PVC insulated copper conductor single core cable as earth wire in existing surface/ recessed steel conduit including dismantling as required.					
2.1	Group C	30	Point	1064.00	31920.00	1.15.3
3	Wiring for circuit/ submain wiring along with earth wire with the following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in surface/ recessed steel conduit as required					
3.1	2 X 1.5 sq. mm + 1 X 1.5 sq. mm earth wire	70	Mtr.	370.00	25900.00	1.7.1
3.2	2 X 4 sq. mm + 1 X 4 sq. mm earth wire	70	Mtr.	476.00	33320.00	1.7.3
3.3	2 X 6 sq. mm + 1 X 6 sq. mm earth wire	75	Mtr.	652.00	48900.00	1.7.4
3.4	2 X 10 sq. mm + 1 X 6 sq. mm earth wire	40	Mtr.	778.00	31120.00	1.7.5
3.5	4 X 4 sq. mm + 2 X 4 sq. mm earth wire	30	Mtr.	744.00	22320.00	1.7.8
3.6	4 X 16 sq. mm + 2 X 6 sq. mm earth wire	25	Mtr.	1760.00	44000.00	1.7.11
4	Supplying and drawing following sizes of FRLS/HFFR PVC insulated copper conductor, single core cable in the existing surface/ recessed steel/ PVC conduit as required					
4.1	6 x 1.5 sq. mm	50	Mtr.	195.00	9750.00	1.17.6
5	Supplying, drawing, Installation, Testing and commissioning of CAT6 UTP LSZH 23AWG Twisted Pair Cable in existing conduit/ on surface, Category 6 Unshielded Twisted Pair, 4 pair should be complied as per UL/ETL verification program for compliance with ANSI/TIA-568.2-D standard. Outer diameter should be in the range of 6.1mm nominal with Operating Temperature Range : -5° to +60°C, Bending Radius : < 4 X Cable Diameter at -5°C ± 1°C and Pulling Force : 11.5Kg etc. complete as required					
5.1	1 Run of cable	50	Mtr.	60.00	3000.00	39.17.1
5.2	2 Run of cable	50	Mtr.	96.00	4800.00	39.17.2
6	Supplying and drawing following pair 0.5 mm dia FRLS/HFFR PVC insulated annealed copper conductor, unarmored telephone cable in the existing surface/ recessed steel/ PVC conduit as required					
6.1	2 Pair	50	Mtr.	39.00	1950.00	1.18.2
7	Supplying and drawing co-axial TV cable RG-6 grade, 0.7 mm solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface/ recessed steel/ PVC conduit as required	30	Mtr.	54.00	1620.00	1.19
8	Supplying and fixing of following sizes of steel conduit along with accessories in surface/recess including painting in case of surface conduit, or cutting the wall and making good the same in case of recessed conduit as required					
8.1	25mm	250	Mtr.	289.00	72250.00	1.20.2
9	Supplying and fixing following modular switch/ socket on the existing modular plate & switch box including connections but excluding modular plate etc. as required					
9.1	5/6 A switch	30	Each	121.00	3630.00	1.24.1
9.2	15/16 A switch	15	Each	176.00	2640.00	1.24.3
9.3	3 pin 5/6 A socket outlet	15	Each	136.00	2040.00	1.24.4
9.4	6 pin 15/16 A socket outlet	15	Each	219.00	3285.00	1.24.5
9.5	Telephone socket outlet	5	Each	168.00	840.00	1.24.6
9.6	TV antenna socket outlet	2	Each	168.00	336.00	1.24.7
9.7	Bell push	5	Each	159.00	795.00	1.24.8

S.N.	Description of Item	Qty	Unit	Rate	Amount	Remark
9.8	Supplying, Installation, Testing and commissioning of CAT6 Copper Information Outlet (IO) with face plate of color as per site requirement, should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D. All copper Cable and Components should be from same OEM to maintain compatibility and interoperability etc. complete as required.	5	Each	212.00	1060.00	39.14
10	Supplying and fixing following size/ modules, GI box along with modular base & cover plate for modular switches in recess etc. as required					
10.1	1 or 2 Module (75mmX75mm)	17	Each	354.00	6018.00	1.27.1
11	Supplying and fixing following Modular base & cover plate on existing modular metal boxes etc. as required					
11.1	3 Module	4	Each	175.00	700.00	1.28.2
11.2	4 Module	4	Each	182.00	728.00	1.28.3
11.3	6 Module	3	Each	207.00	621.00	1.28.4
11.4	8 Module	3	Each	238.00	714.00	1.28.5
11.5	12 Module	3	Each	301.00	903.00	1.28.6
12	Supplying and fixing suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 A modular socket outlet and 5/6 A modular switch, connections etc. as required.	10	Each	545.00	5450.00	1.31
13	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.	10	Each	659.00	6590.00	1.32
14	Supplying & fixing suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 25 A modular socket outlet and 25 A modular SP MCB, "C" curve including connections, painting etc. as required	3	Each	807.00	2421.00	1.57
15	Supplying and fixing following way, single pole and neutral, sheet steel, MCB distribution board, 240 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/RCCB /Isolator)					
15.1	16 way, Double door	1	Each	3367.00	3367.00	2.3.4
16	Supplying and fixing following way, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/ RCCB/Isolator).					
16.1	8 way (4 + 24), Double door	1	Each	6337.00	6337.00	2.4.3
17	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.					
17.1	Single pole	89	Each	285.00	25365.00	2.10.1
18	Supplying and fixing following 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.					
18.1	40A SP MCB	3	Each	615.00	1845.00	MR
18.2	63A SP MCB	2	Each	615.00	1230.00	MR
19	Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required.					
19.1	40A	3	Each	2512.00	7536.00	2.14.2
19.2	63A	2	Each	2866.00	5732.00	2.14.3
20	Supplying and fixing following rating, four pole, (three phase and neutral), 415 volts, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required					
20.1	63A	1	Each	3597.00	3597.00	2.15.3

S.N.	Description of Item	Qty	Unit	Rate	Amount	Remark
21	Brush Less Direct Current (BLDC) Fan without 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%, suitable for operation with regulator 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.					
21.1	1200mm, service value ≥ 6.0 CM/Min/Watt, air delivery 210 CM/Min (Minimum)	6	Each	2695.00	16170.00	9.2.3
22	LED Panel light 2x2 ft. (System lumen efficacy $\geq 105 < 120$ 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 $\geq 105 < 120$ 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)					
22.1	36 Watt	25	Each	2508.00	62700.00	8.6.4
23	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.					

S.N.	Description of Item	Qty	Unit	Rate	Amount	Remark
	System 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					
23.1	18 watt	25	Each	920.00	23000.00	8.1.4
24	LED Batten light (System lumen efficacy ≥ 105 < 120 lm/Watt) Supplying, installation, Testing & Commissioning of LED surface mounted Batten light of following body material and construction as per IS : 10322 with driver (Replaceable) as per the requirement with Driver efficiency $> 85\%$, Operating voltage AC 140- 270 Volt, frequency 50/60 hz, Operating temp range -5°C to 40°C , internal surge protection of 2.5 KV with Short & Open circuit protection ,THD $< 10\%$, P. F. ≥ 0.95 , IP20, CRI > 80 , 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 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)					
24.1	18- 22 Watt	5	Each	681.00	3405.00	8.9.1
25	Supplying, Installation, testing & commissioning of 300 mm sweep exhaust fan , metal body, approximate Airflow 1050 cub Mtr. /hr (cmh), Speed 1325 rpm approximate, 3 Nos. blade with grill in the existing opening etc. as required.	1	Each	2290.00	2290.00	MR
26	Supply, Installation, Testing and Commissioning of minimum 10Watt LED Batten light fitting made with Aluminium housing body having a minimum nominal system lumen output of 1100 lumens and a minimum system efficiency of 110 lm/W complete with integral driver life time (LED, Driver & electrical circuitry) of minimum 25000 Burning Hours , CRI > 80 suitable for 240V single phase 50Hz power supply, i/c fixing arrangement, connections with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.	1	Each	560.00	560.00	MR
27	SITC of wall fan of 400mm sweep , RPM-1360 Approximate, suitable for 240V single phase 50Hz power supply, i/c fixing arrangement on wall, connections with 1.5 sq. mm FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required. etc. complete as required.	3	Each	5911.00	17733.00	MR
28	LED Display Supplying, Installation, Testing and Commissioning of following size LED display (LED monitor) industrial grade with 3840x2160 resolution or better, USB playback, bluetooth and miracast connectivity, 4X HDMI 2.0, DP 1.2, HDR 10/10+, brightness: 500-nits or better, Video wall mode should be available, contrast ratio: 1200:1, OPS slot, viewing angle (H/V): $170^{\circ}/ 170^{\circ}$, response time less than 12ms, Display control shall be on monitor screen and programmable with remote (remote shall be supplied with system), Key Board, Optical Mouse,etc. as required.					
28.1	43 inch or larger	1	Each	51459.00	51459.00	42.4.2
	HI - WALL SPLIT SYSTEMS					

S.N.	Description of Item	Qty	Unit	Rate	Amount	Remark
29	Supplying, Installation, Testing and Commissioning of Air Cooled Hi Wall split type Air conditioners complete with Indoor unit(IDU), Out door unit (ODU), surface / concealed copper Refrigerant piping with insulation (closed cell elastomeric nitrile rubber tubular pipe section) upto 3 Mtr (IDU to ODU), copper power cable upto 3.5 Mtr (IDU to ODU) i/c drain pipe R-32/R-410/ R-407 Green Refrigerant, wireless Remote control, suitable for working between 180- 260V with low & high voltage cutoff and 50 hz ,1 phase AC supply capable of performing cooling, dehumidification, air circulation of following capacity with Scroll / rotary compressor. The system shall be able to deliver 100% of the rated capacity upto 42 0C. Min 5 year Original Equipment Manufacturer (OEM) warranty both compressor and Printed Circuit Board (PCB). Must comply : Electrical cable IS 694 or IS 9968 temperature sensing control IS/International Electrotechnical Commission (IEC) 60730, hermetic compressor IS 10617, heat exchanger IS 11329, capacitor IS 2993 and motor IS 12615. Complete as per CPWD specification and IS : 1391 Part II 2023. The system shall be able to operate up to 50 0C (out door ambient temperature).					
	Inverter Type - Cooling only					
29.1	2.0 TR with 5 Star BEE Rating	1	Each	57396.00	57396.00	32.2.4
30	Providing and fixing 4 kg. (MAP 50) capacity, ABC Type fire extinguisher on the existing wall etc as reqd. (ISI marked)	5	Each	6502.00	32510.00	MR
31	Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 Meter long etc. with charcoal/ coke and salt as required	2	Each	8351.00	16702.00	5.4
32	Providing and fixing 25 mm X 5 mm G.I. strip in 40 mm dia G.I. pipe from earth electrode including connection with G.I. nut, bolt, spring, washer excavation and re-filling etc. as required	10	Mtr.	755.00	7550.00	5.11
33	Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required	10	Mtr.	287.00	2870.00	5.15
				Total Rs.	771500.00	
				Say Rs.	771500.00	

Executive Engineer(E)
NED, CPWD, Nagpur