ELECTRICAL SAFETY AUDIT

JUNE 2023

FOR

NIRMALA MEMORIAL FOUNDATION, KANDIVALI

Prepared by

M/s. ETCOM ENGINEERING SERVICES

Contents

ACKNOWLEDGEMENT

We would like to thanks **NIRMALA MEMORIAL FOUNDATION** for appointing **M/s. ETCOM ENGINEERING SERVICES** for ensuring observance of safety measures specified under Central Electricity Authority (Measures Relating to Safety and Electric Supply) Regulation 2010 in their organization.

Electrical Engineers of **M/s. ETCOM ENGINEERING SERVICES** had conducted Periodic Inspection of Electrical Installation at **NIRMALA MEMORIAL FOUNDATION, Kandivali** during 22nd June to 25th June 2023.

ELECTRICAL SAFETY AUDIT TEAM MEMBERS

The Electrical Safety Audit team comprised of following members from M/s. ETCOM ENGINEERING SERVICES.

Sr No	Name of Engineer	Designation
1	Er. Prakshep Bhuktar	Chartered Engineer (India), Electrical
2	Er. Amol Tamore	Electrical Engineer
3	Er. Harshad Jadhav	Electrical Engineer

INSTRUMENTS USED FOR MEASUREMENTS AND ANALYSIS

Below mentioned instruments used while conducting Electrical Safety Audit.

Sr No	Instrument	Purpose
1	Earth Resistance meter	To measure Earth Electrode Resistance
2	Insulation Resistance Kit	To measure Insulation Resistance of cable
3	FLIR IR Thermography Camera	To measure temperature of electrical installation
4	ELCB/RCD Tester	To measure tripping time of ELCB & RCCB
5	Multimeter	To measure Voltage, Current, Continuity Test

PERIODIC INSPECTION OF ELECTRICAL INSTALLATIONS

Kindly note, as per **Electricity Act 2003, Section 177** (Power of Authority to make Regulations) and **Section 53** (Provisions relating to safety and electricity supply), Central Electricity Authority had made **Regulations** for Measures relating to Safety and Electric Supply for protecting public from dangers arising from the generation, transmission or distribution or trading of electricity, or use of electricity supplied or installation, Maintenance or use of any electric line or electrical plant and eliminating or reducing the risks of personal injury to any person, or damage to property of any person or interference with use of such property.

As per **Section 53(f)** of Electricity Act, we M/s ETCOM ENGINEERING SERVICES had carried out inspection of Electrical Installation at your premises with reference to **Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations 2010, specified relevant standard (IS 732, IS 3043, NEC 2023)** and kept record thereof in form II.

It is **mandatory** to rectify defects specified under this reports as per **Regulation 30(2C)** of **Central Electricity Authority (Measures relating to Safety and Electric Supply) Regulations 2010.**

Defects shall be rectifying by License Electrical Contractor under direct supervision of a person holding certificate of competency as per **Regulation 29** and shall provide **compliance report** in prescribed format also provide Test Reports of electrical installation as per **Regulation 31** of CEA Regulation 2010 **before recommencement of power supply**.

1. Form II
2. Test Report of Electrical Installation
    i) Insulation Resistance Test Report
    ii) Earth Electrode Resistance Test Report
    iii) Load measurement study
    iv) ELCB/ RCCB Test Report
    v) Infrared Thermography Report
    vi) MCB and Wiring details
3. Total Connected Load List
4. General Electrical Safety Observation and Recommendation

1. Form II

(Installations of voltage level more than 250V up to and including 650V)

Date of Inspection by Electrical Inspector or self-certification by supplier/owner/Chartered Electrical Safety Engineer	**22/06/2023**
Date of Last inspection or self-certification	Not Available
1. Consumer No	1st floor- 150199211 2nd floor- 150011040 3rd floor- 150011043 4th floor- 150287272 5th floor- 150287270 TATA power- 900000023103
2. Voltage and system of supply:	
i) Volts: **417 V** ii) No. of Phase: **3 Phase** iii) AC/DC: **AC**	
3. Name of the consumer or owner	**NIRMALA MEMORIAL FOUNDATION**
4. Address of the consumer or owner	**B4 ASHA NGR, 60ft road, Thakur complex, Kandivali (E), Mumbai-400101**
5. Location of the premises	**KANDIVALI**

6. Particulars of the installations

a. Motor:

Make: -	No.: -	HP:	Amp: -	Voltage: -
-	1	75 Hp (Fire Main Pump)	-	415 V
CG	1	5 Hp (Booster Pump)	-	415 V
-	2	5 Hp (Water Pump)	-	415 V

b. Other Equipment's (Complete details to be furnished)

i) Other equipment details is provided in separate sheet

Total Connected Load in HP / KVA:

- 1st floor meter- 58 KW
- 2nd floor meter-47 KW
- 3rd floor meter-113 KW
- 4th floor meter-60 KW
- 5th floor meter- 58KW
- TATA power meter-214 kW

c. Generators details i.e. Make, S. No, KVA rating and Voltage

i) Not Available

General condition of the installation:

Sr. No	Regulation Nos.	Requirements	Report
7	Regulation 3	Is the register of designated persons properly made and kept up to date duly attested?	No It is recommended to designate person for the purpose to operate and carry out the work on electrical line and apparatus.
8	Regulation 12	i) Is/Are there any visible sign(s) of overloading in respect of any apparatus wiring? ii) Whether any unauthorized temporary installation exists? iii) Are the electric supply lines and apparatus so installed, protected, worked and maintained as to prevent danger? iv) Any other general remarks.	No, Found OK. No, Found OK. No, It is recommended to upgrade cable size from meter cabin to floor DB as per actual load and SFU rating. Refer MCB & wiring section. Also at some ACDB on floors main incomer cable is under size and 4P MCB is not observed recommended to take corrective action. It is recommended to trace all direct connection in floor DB at SP MCB and provide main incomer MCB as per rated size of respective circuit.
9	Regulation 13	Give report on condition of service lines, cables, wires, apparatus and such other fittings placed by the supplier or owner of the premises. If not satisfactory give details.	Yes, Found OK.
10	Regulation 14	Whether suitable cut-outs/CBs provided by the supplier at the consumer's premises are within enclosed fire proof/resistant receptacle?	Recommended to provide cover to open enclosure.
11	Regulation 15	i) Whether switches are provided on live conductors? ii) Whether indication of a permanent nature is provided as per Regulation so as to distinguish neutral conductor from the live conductor as per IS color code? iii) Whether a direct line is provided on the neutral in the case of single phase double pole iron clad	Yes, Provided. No, Provided. Yes, Provided

		switches/CBs instead of fuse?	
12	Regulation 16	i) Whether earthed terminal is provided by the supplier? ii) General visible condition of the earthing arrangement.	Yes, supplied, but supplier earth terminal is not connected to owner/ consumer earth strip. Not Satisfactory. Earth pit chamber of owner/ consumer is buried in tiles/PCC work.
13	Regulation 17	i) Are bare conductors in building inaccessible? ii) Whether readily accessible switches have been provided for rendering them dead?	Yes, inaccessible. Yes.
14	Regulation 18	Whether "Danger Notice" in Hindi and the local language of the district and of a design as per relevant Indian Standard is affixed permanently in conspicuous position?	No, Not Provided.
15	Regulation 19	i) Whether insulating floor or mats conforming to IS-15652:2006 have been provided? ii) Whether identification of panel has been provided on the front and the rear of the panel?	No, Not Provided No, Not Provided
16	Regulation 21	Whether flexible cables used for portable or transportable equipment covered under the Regulation, are heavily insulated and adequately protected from mechanical injury?	Not available..
17	Regulation 22	State the condition of metallic coverings provided for various conductors	Satisfactory
18	Regulation 24	Whether the circuits or apparatus intended for operating at different voltage(s) are distinguishable by means of indication(s) of permanent nature?	No, It is recommended to provide tagging on all cables for easy identification.
19	Regulation 26	Whether all circuits and apparatus are so arranged that there is no danger of any part(s) becoming accidentally charged to any voltage beyond the limits of voltage for which it/they is/are intended?	Yes, arranged properly.
20	Regulation 27	i) In the case of generating stations and enclosed sub stations, whether	Not Applicable

		fire-buckets filled with clean dry sand have been conspicuously marked and kept in convenient situations in addition to fire extinguishers as per IS 3034 suitable for dealing with minor electric fires ? ii) Whether First Aid Boxes or cupboards conspicuously marked and properly equipped are provided and maintained? iii) Is adequate staff trained in First Aid Treatment and fire fighting?	Yes, Provided. Yes, Trained.
21	Regulation 28	i) Whether instructions in English or Hindi and the local language of the district and where Hindi is the local language, in English and Hindi, for the resuscitation of persons suffering from electric shock have been affixed in a "conspicuous place"? ii) Are the designated persons able to apply instructions for resuscitation of persons suffering from electric shock?	No, not affixed. Yes, Trained.
22	Regulation 34	Leakage on premises: State Insulation Resistance between conductor and earth in Mega Ohm	**PE- 340 MΩ** **PN- 470 MΩ**
23	Regulation 35	i) Whether a suitable linked switch, or circuit breaker, or emergency tripping device is placed near the point of commencement of supply so as to be readily accessible and capable of being easily operated to completely isolate the supply? ii) Whether every distinct circuit is protected against excess electricity by means of a suitable circuit breaker or cut-out? iii) Whether suitable linked switch or circuit breaker or emergency tripping device is provided near each motor or other apparatus for controlling supply to the motor or apparatus? iv) Whether adequate precautions are taken to ensure that no live parts	Yes, Provided. Yes, Protected. Not Applicable Yes.

		are so exposed as to cause danger?	
24	Regulation 37	i) Whether clear space of 100 cm is provided in front of the main switchboard? ii) Whether the space behind the switchboard exceeds 75 cm in width or is less than 20 cm? iii) In case the clear space behind the switchboard exceeds 75 cm. State whether a passage way from either end of the switchboard to a height of 1.80 meters is provided.	Yes, Provided Not applicable Not applicable
25	Regulation 41	i) Has the neutral point at the transformer and generator been earthed by separate and distinct connections with earth? ii) Have the frame of every generator, stationary motor and so far as practicable portable motor and the metallic parts (not intended as conductors) of all transformers and any other apparatus used for regulating or controlling electricity and all apparatus consuming electricity at voltage exceeding 250V but not exceeding 650V been earthed by two separate and distinct connections with earth ? iii) Have the metal casings or metallic coverings containing or protecting any electric supply line or apparatus been properly earthed and so joined and connected across all junction boxes as to make good mechanical and electrical connection? iv) Whether the consumer's earth-electrode is properly executed and has been tested. If yes, give value of earth resistance? v) Is the earth wire free from any mechanical damage? vi) Whether record of earth resistance value maintained?	Not applicable Not applicable No, Not Provided YES **1 Ohm** Yes No, Not maintained.
26	Regulation 42	Whether Residual Current Device of appropriate capacity as defined	Yes, Provided. Since It is recommended to provide

		in Regulation have been provided?	30 mA RCD for computers, water coolers, LAB.
27	Regulation 45	Whether protections and interlocks for the generator have been provided?	Not applicable
28	Overhead Lines	i) State if the consumer has any overhead lines. ii) Does the overhead line near the premises of consumer meets the requirement of Regulations 58, 60 and 61? If not, give details. iii) Is guarding provided for overhead lines at road crossings? iv) Any other remarks.	Not applicable Not applicable Not applicable

2. TEST REPORT OF ELECTRICAL INSTALLATIONS

i) INSULATION RESISTANCE TEST

Name of Test	Observations	Recommendations
Insulation Resistance Test between Phase and Earth :	**340 MΩ**	Found OK
Insulation Resistance Test between Phase and Neutral:	**470 MΩ**	

ii) EARTH ELECTRODE RESISTANCE TEST

Name of Test	Observations	Recommendations
Earth Electrode Resistance Test:	**1 Ω** Partial TT Type of earthing System is provided for Electrical Installation.	Ok It is recommended to provide earthing system as per IS 732/ NEC 2023 (as shown in below figure TN-CS with protective multiple earthing). Provide Main Earth Terminal of rated size in Electricity Meter Room. Connect Consumer Earth Strip to supplier earth strip and Neutral at point of commencement of supply as per standard.
	Equipotential bonding is not available properly for all electrical installation/ exposed/ extraneous conductive part in school.	It is recommended to provide proper equipotential bonding arrangement of all exposed and extraneous conductive part as per NEC 2023, IS 732, IS 3043. i.e. connect all metal part / fencing/ water pipe(metal) to MET with proper supplementary bonding conductor.
	Earth conductor is connected from Ground floor meter room to electrical shaft. Protective earth conductor is twisted to earth strip without using lugs/nut bolts in meter room**.**	It is recommended to crimp rated size of lugs to all protective earth conductor and connect to earth strip with nut and bolts properly.

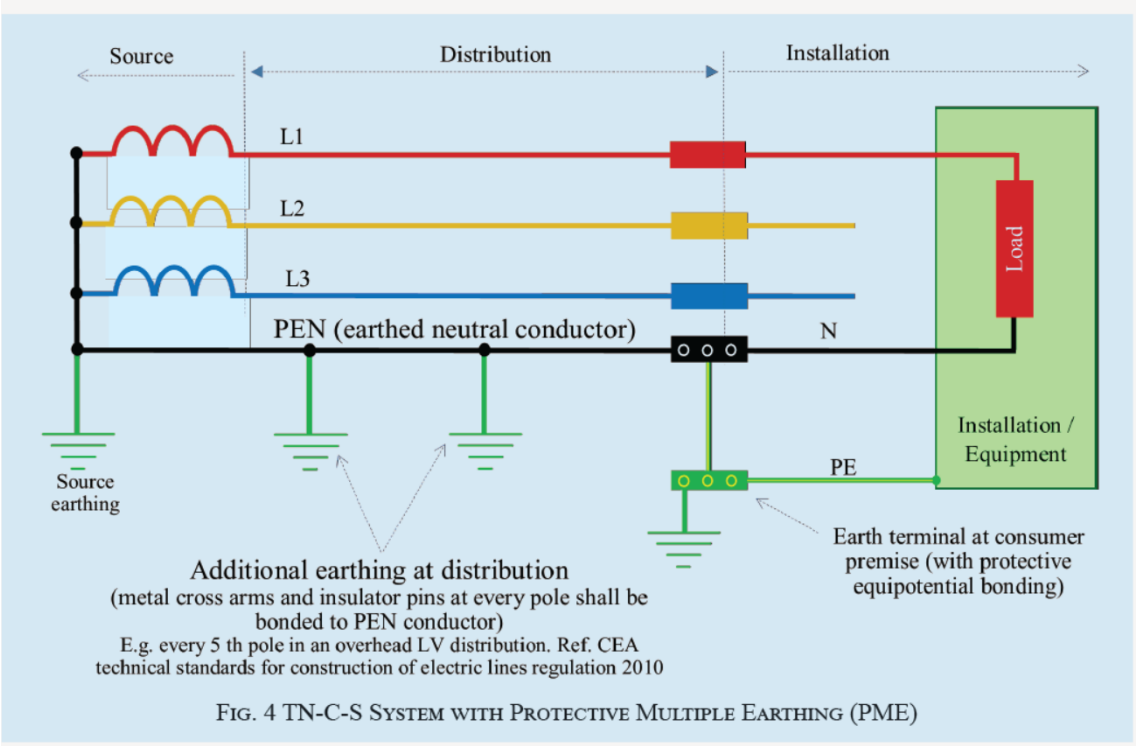
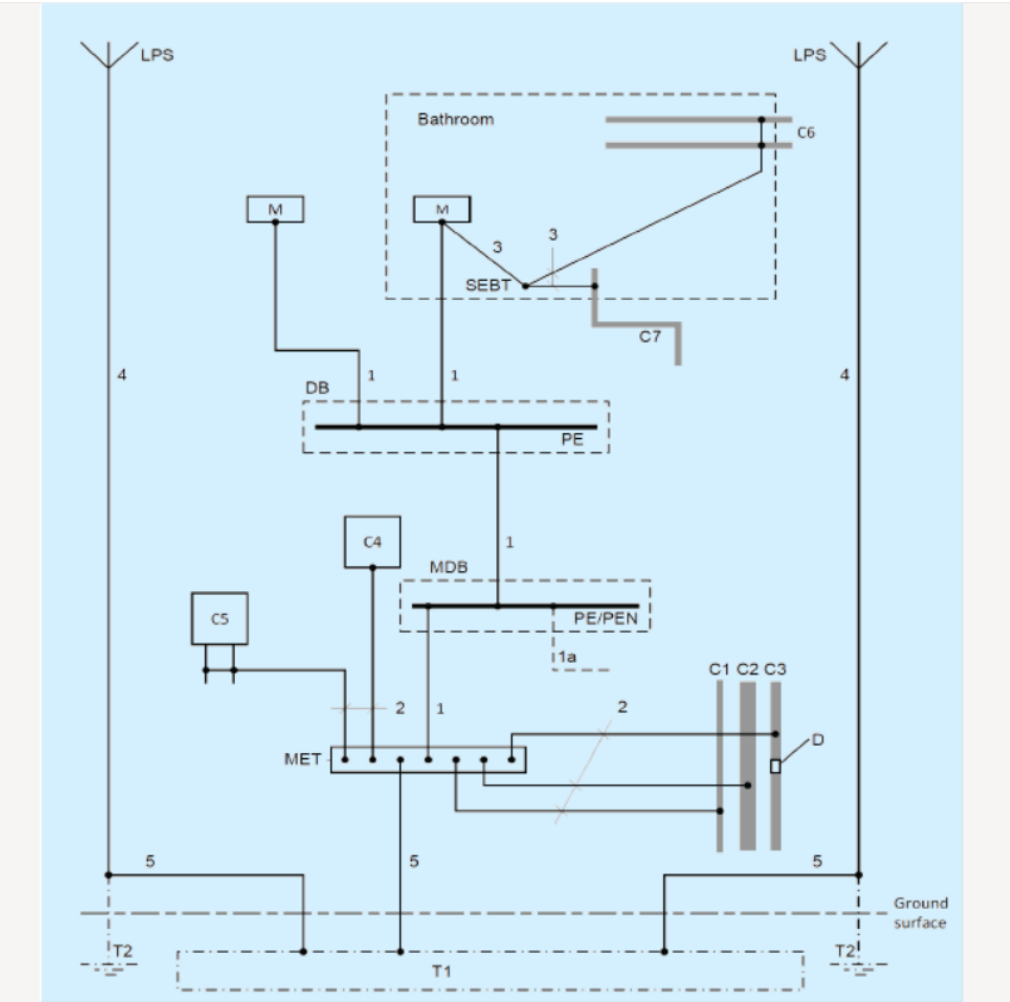


FIG. 4 TN-C-S SYSTEM WITH PROTECTIVE MULTIPLE EARTHING (PME)



iii) LOAD MEASUREMENT STUDY

Sr. No.	SFU/MCCB/ FEEDER	Voltage (v)				Current (A)				Recommendations
		RN	YN	BN	NE	R	Y	B	N	
1	Ground floor SFU	234	233	231	1.2	38	53	70	23	Distribute load equally in all three phases.
2	1st floor SFU	231	232	233	0.4	38	26	39	15	
3	2nd floor SFU	231	233	236	1.5	22	5	13	14	
4	3rd floor SFU	231	236	232	1.7	74	41	72	39	
5	4th floor SFU	230	237	232	2.1	84	93	63	54	
6	5th floor SFU	229	239	231	2.5	86	68	83	21	
7	Lift meter SFU	230	232	231	0.7	9.5	7.5	9.8	2.0	Load is found balanced.
8	6th floor SFU	243	245	243	3.4	80	79	44	39	Distribute load equally in all three phases.
9	7th floor SFU	243	245	242	5.1	72	70	46	40	
10	8th floor SFU	244	243	241	1.7	48	28	52	15	

iv) ELCB / RCCB TEST REPORT

Sr. no.	Location	RCCB rating	Status	Recommendations
1	Room no. 113 DB	4P 63A, 100mA	Tripped	Found Ok.
2	Room no. 103 DB	4P 63A, 100mA	Not Tripped	It is recommended to replace the RCCB.
3	Room no. 111 DB	4P 40A, 100mA	Not Tripped	It is recommended to replace the RCCB.
4	Room no. 112 DB	4P 63A, 100mA	Not Tripped	It is recommended to replace the RCCB.
5	Room no. 203 DB	4P 40A, 100mA	Tripped	Found Ok.
6	Room no. 202 DB	4P 40A, 100mA	Tripped	Found Ok.
7	Room no. 212 DB	4P 63A, 100mA	Tripped	Found Ok.
8	Room no. 213 DB	4P 40A, 100mA	Tripped	Found Ok.
9	Room no. 213 DB	4P 63A, 100mA	Tripped	Found Ok.
10	Computer Lab1 DB	4P 63A, 100mA	Tripped	Found Ok.
11	Computer Lab2 DB	4P 40A, 100mA	Tripped	Found Ok.
12	Computer Lab3 DB	4P 40A, 100mA	Tripped	Found Ok.
13	Computer Lab4 DB	4P 40A, 100mA	Tripped	Found Ok.
14	Computer Lab5 DB	4P 40A, 100mA	Tripped	Found Ok.
15	Computer Lab6 DB	4P 40A, 100mA	Tripped	Found Ok.
16	Room no. 312 DB1	4P 63A, 300mA	Tripped	Found Ok.
17	Room no. 312 DB2	4P 40A, 100mA	Tripped	Found Ok.
18	Room no. 313 DB	4P 40A, 100mA	Tripped	Found Ok.
19	Room no. 412 DB	4P 63A, 100mA	Tripped	Found Ok.
20	Room no. 413 DB	4P 63A, 100mA	Not Tripped	It is recommended to replace the RCCB.

21	Room no. 401 DB	4P 63A, 100mA	Tripped	Found Ok.
22	Room no. 512 DB	4P 63A, 100mA	Tripped	Found Ok.
23	Room no. 513 DB	4P 63A, 100mA	Tripped	Found Ok.
24	Room no. 612 DB	4P 40A, 100mA	Tripped	Found Ok.
25	Room no. 712 DB	4P 63A, 100mA	Tripped	Found Ok.
26	Room no. 713 DB	4P 63A, 100mA	Tripped	Found Ok.
27	Library DB	4P 63A, 100mA	Tripped	Found Ok.

Observation:

- All RCCB's which are installed in Distribution Boards are of 100mA rating.
- All RCCB's are of type AC category only.

Recommendations:

As per **Section 10 Protection against electric shock of NEC 2023** it is recommended to install RCD in all Distribution Boards not exceeding 30mA rated residual current capacity for providing protection against electric shock of **suitable category** only.

Type of RCD	**Purpose**
Type AC RCD:	Resistive load (general purpose appliances)
Type A RCD:	Single phase class 1 devices with rectifying circuit like cooking plate
Type F RCD:	Single phase class 1 devices with motor controlled by variable speed drive (heat pump, **air conditioner**)
Type B RCD:	Three Phase class 1 device containing a motor controlled by three phase variable speed drive (Three phase air conditioner , lift , Pump, solor)

NOTE — In fact, the asymptote of curve C1 is 40 mA. The RCDs of 30 mA trip at 30 mA maximum and therefore, have a safety margin compared to the maximum dangerous value.

The point 500 ms/100 mA close to the curve C1 corresponds to a probability of heart fibrillation of the order of 0.14 percent.

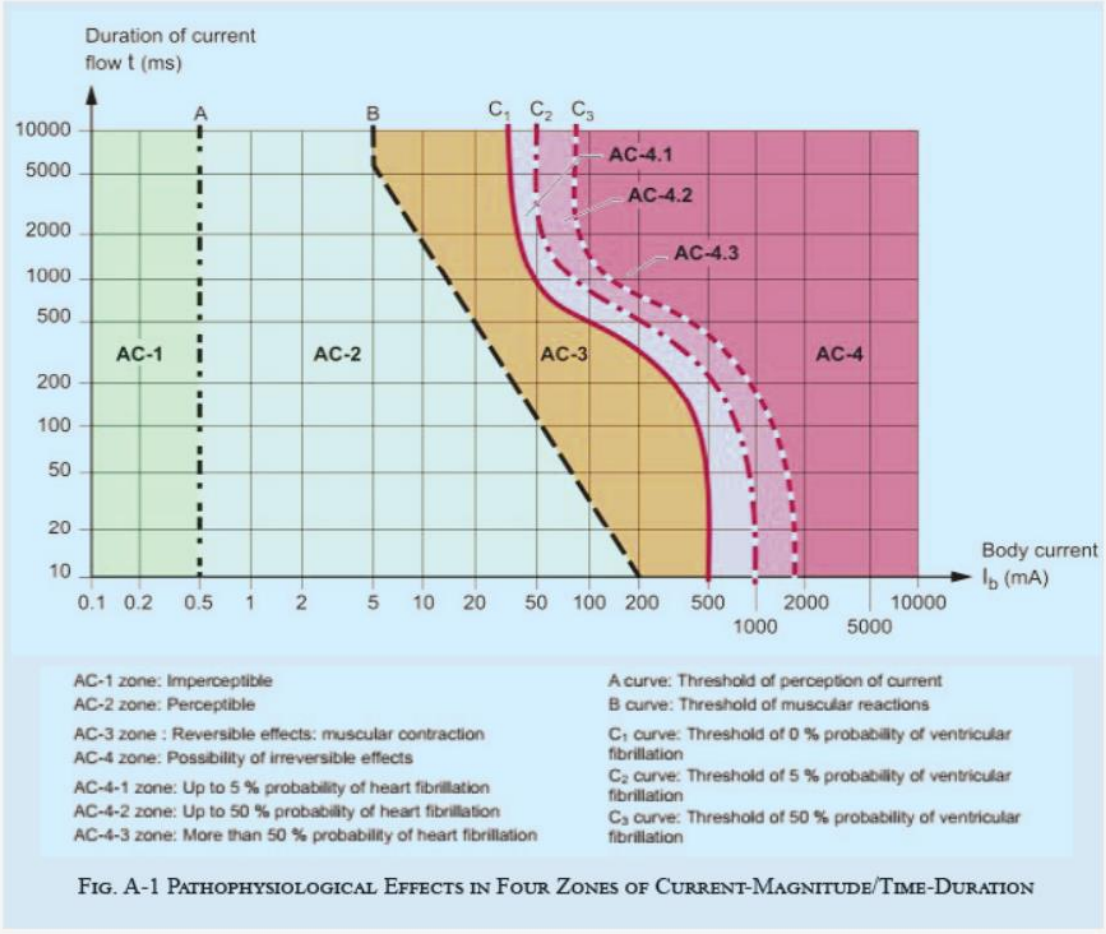
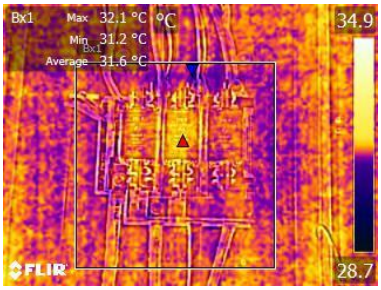
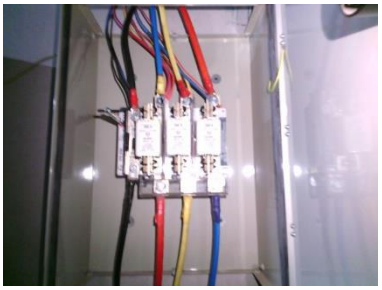


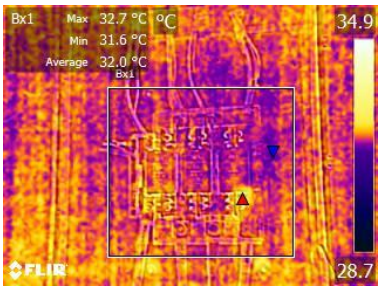
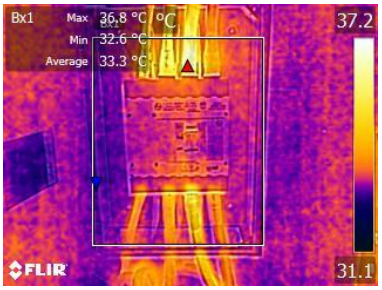
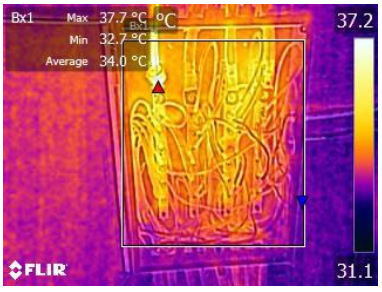
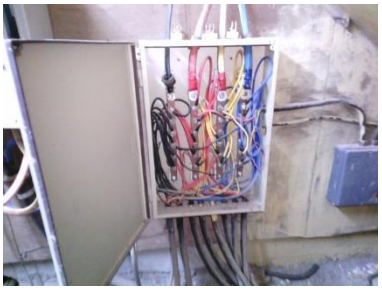
FIG. A-1 PATHOPHYSIOLOGICAL EFFECTS IN FOUR ZONES OF CURRENT-MAGNITUDE/TIME-DURATION

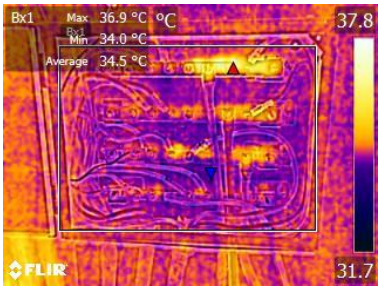
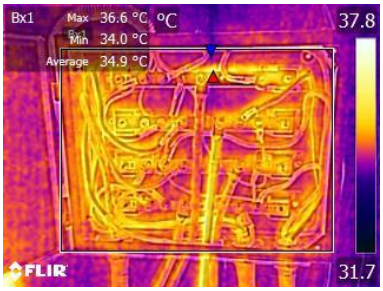
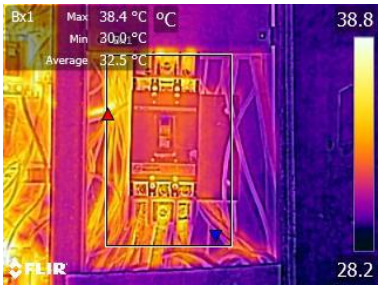
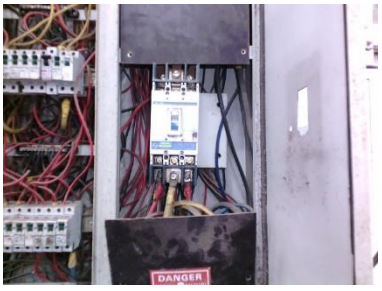
Above fig Annex A of NEC 2023 well explains about why owner should install RCD not exceeding 30mA rated residual current capacity.

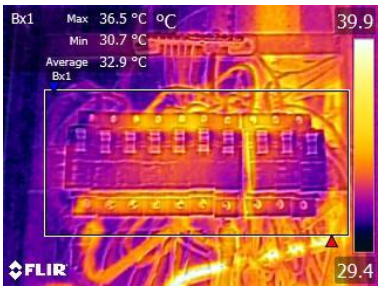
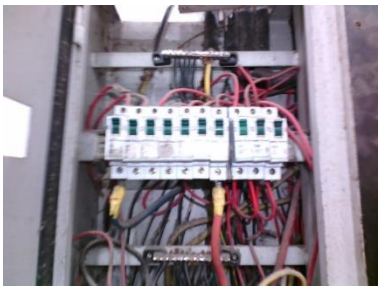
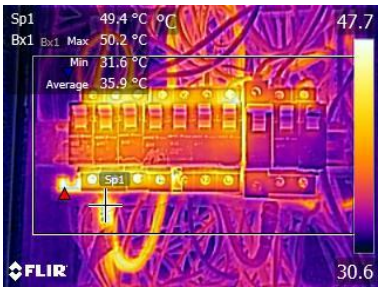
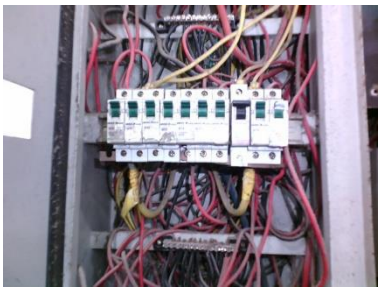
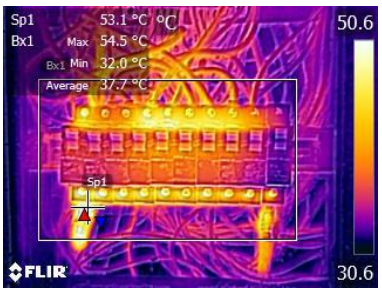
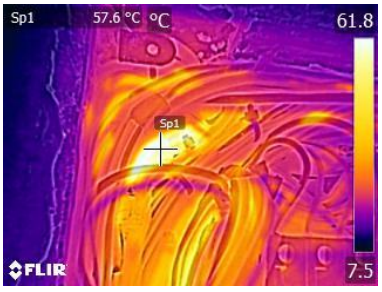
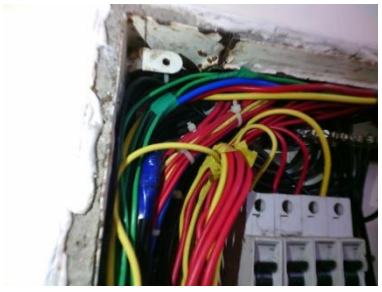
v) INFRARED THERMOGRAPHY REPORT

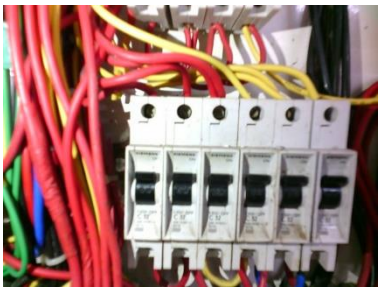
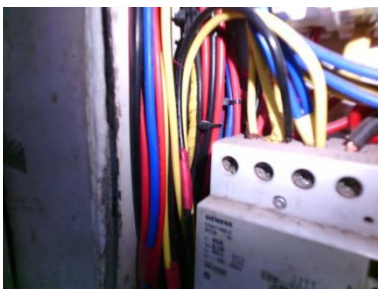
As per **IS 16168 (2014): Guidelines for Infrared Thermography Inspection of Electrical Installations [Non-Destructive Testing]**

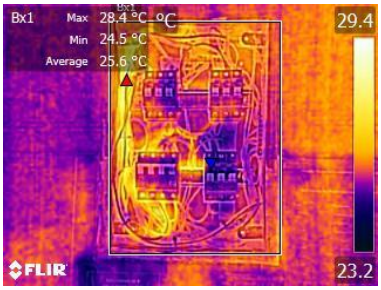
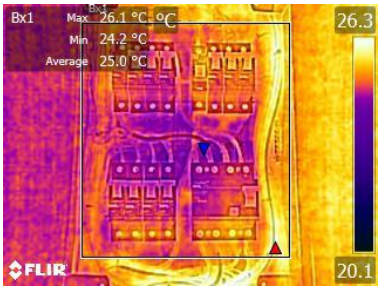
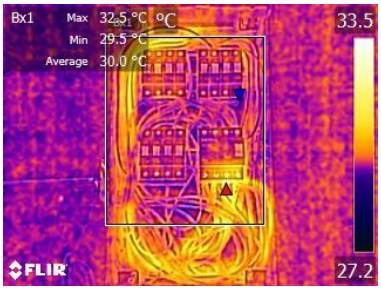
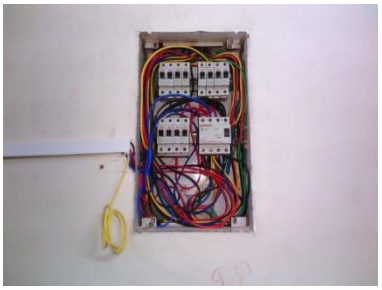
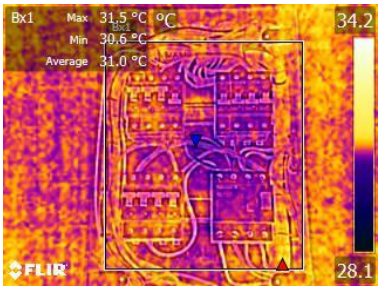
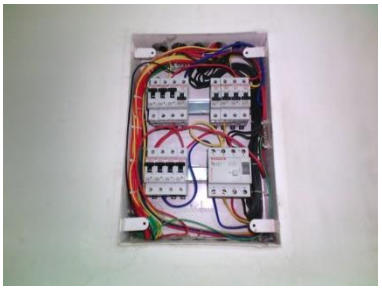
Sr No	Location	Thermal Image	General Image	Observation and Recommendation
1	Adani meter room 1st floor meter SFU			**Observation:** Maximum temperature observed on wire terminal of SFU is **Bx1: 29.1 °C** **Recommendation:** Found Ok.
2	Adani meter room 2nd floor meter SFU			**Observation:** Maximum temperature observed on wire terminal of SFU is **Bx1: 32.1 °C** **Recommendation:** Found Ok.
3	Adani meter room 3rd floor meter SFU			**Observation:** Maximum temperature observed on wire terminal of SFU is **Bx1: 34.6 °C** **Recommendation:** Found Ok.
4	Changeo ver switch			**Observation:** Maximum temperature observed on R-Phase cable is **Bx1: 45.2 °C** **Recommendation:** Found Ok.

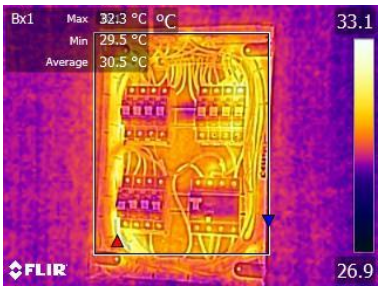
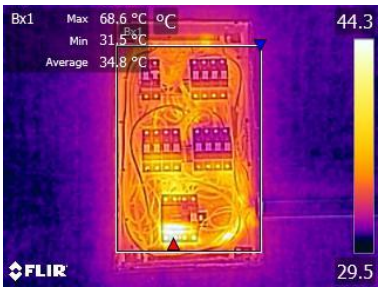
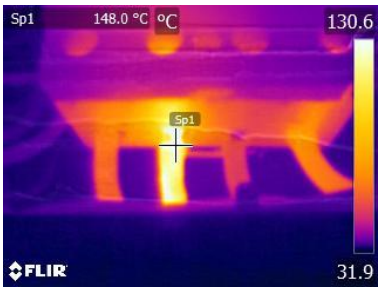
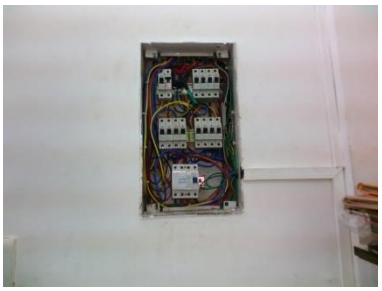
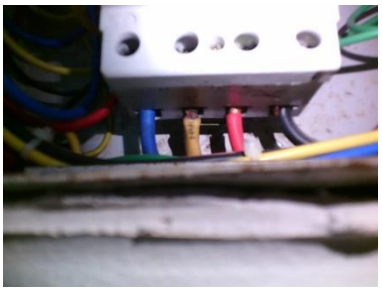
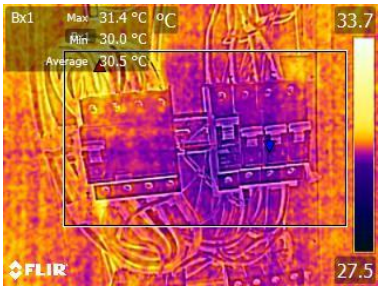
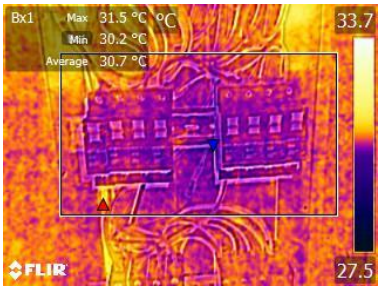
5	Adani meter room 4th floor meter SFU			**Observation:** Maximum temperature observed on wire terminal of SFU is **Bx1: 32.7 °C** **Recommendation:** Found Ok.
6	Adani meter room 5th floor meter SFU			**Observation:** Maximum temperature observed on wire terminal of SFU is **Bx1: 34.7 °C** **Recommendation:** Found Ok.
7	TATA power meter room Main outgoing cable terminal			**Observation:** Maximum temperature observed on cable terminal of TATA power meter is **Bx1: 35.7 °C** **Recommendation:** Found Ok.
8	Main 400A MCCB			**Observation:** Maximum temperature observed on cable terminal of MCCB is **Bx1: 36.8 °C** **Recommendation:** Found Ok.
9	Main Bus bar chamber			**Observation:** Maximum temperature observed on cable terminal of Bus bar are **Bx1: 37.7 °C** **Recommendation:** Found Ok.

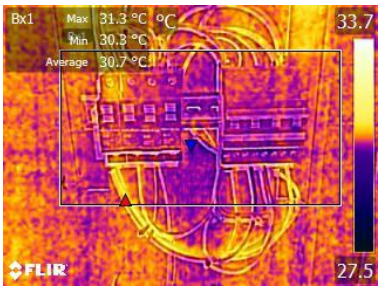
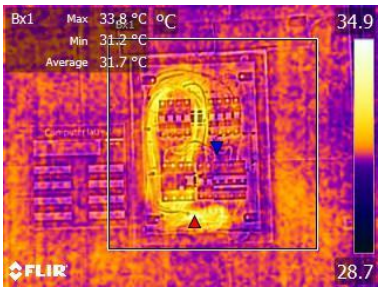
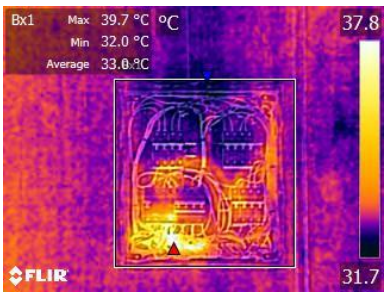
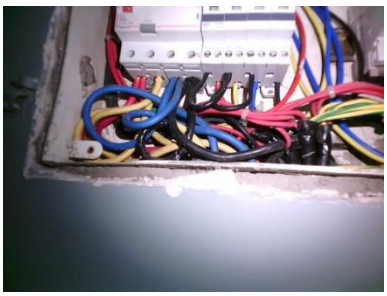
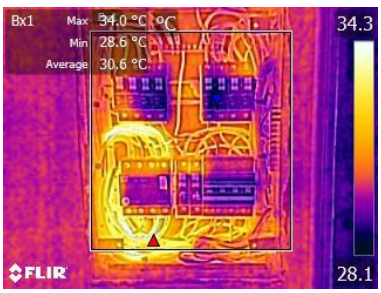
10	8th floor Main SFU incomer			**Observation:** Maximum temperature observed on cable terminal of SFU is **Bx1: 41.9 °C** **Recommendation:** Found Ok.
11	7th floor Bus bar chamber			**Observation:** Maximum temperature observed on cable terminal of bus bar is **Bx1: 36.9 °C** **Recommendation:** Found Ok.
12	6th floor bus bar chamber			**Observation:** Maximum temperature observed on cable terminal of Bus bar is **Bx1: 36.6 °C** **Recommendation:** Found Ok.
13	6th floor Main SFU incomer			**Observation:** Maximum temperature observed on cable terminal of SFU is **Bx1: 44.3 °C** **Recommendation:** It is recommended to fix HRC fuse properly in SFU switch and make proper connection.
14	Ground floor Electrical panel			**Observation:** Maximum temperature observed on cable terminal of MCCB is **Bx1: 38.4 °C** **Recommendation:** Found Ok.

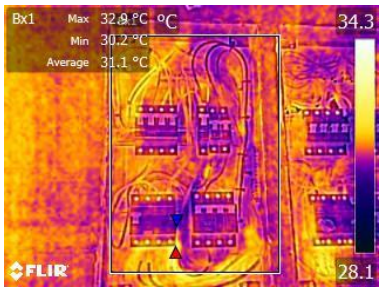
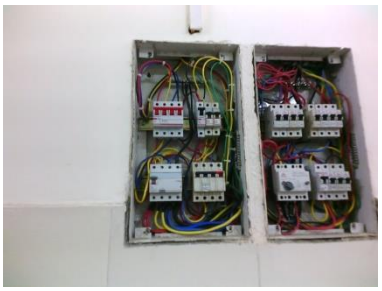
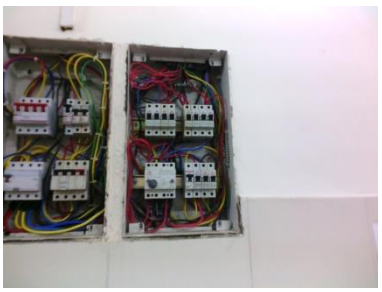
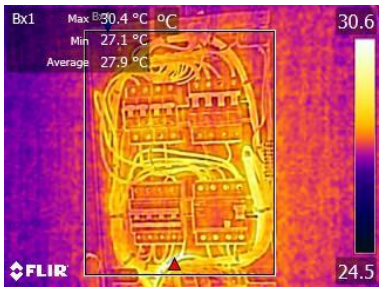
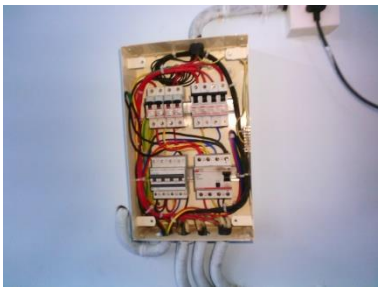
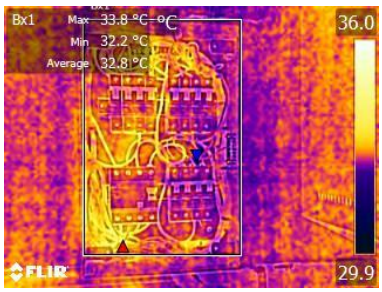
15	R-phase section of electrical panel			**Observation:** Maximum temperature observed on cable terminal of MCB is **Bx1: 36.5 °C** **Recommendation:** Found Ok.
16	Y-phase section of electrical panel			**Observation:** Maximum temperature observed on incoming cable terminal of MCB is **Bx1: 49.4 °C** **Recommendation:** It is recommended to make proper tightening on cable at MCB terminal.
17	B-phase section of electrical panel			**Observation:** Maximum temperature observed on incoming cable terminal of MCB is **Bx1: 54.5 °C** **Recommendation:** It is recommended to make proper tightening on cable at MCB terminal.
18	1st floor room no. 112	 	 	**Observation:** Maximum temperature observed on neutral wire joint is **Bx1:54.6 °C** **Sp1: 57.6 °C** **Recommendation:** It is recommended to remove neutral wire joint. crimp rated size of LUGs on wire terminal

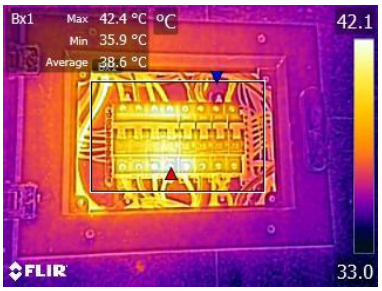
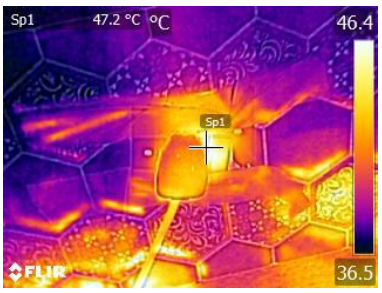
				and make proper tightening on wire neutral link. **Observation:** Maximum temperature observed on Y-phase wire terminal of RCCB is **Bx1: 59.5 °C** **Recommendation:** It is recommended to crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of RCCB.
				**Observation:** Maximum temperature observed on outgoing wire terminal of MCB is **Sp1: 56.8 °C** **Recommendation:** It is recommended to crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of MCB.
19	1st floor room no. 113			**Observation:** Maximum temperature observed on wire joint is **Bx1: 37.2 °C** **Li1: 42.5 °C** **Recommendation:** It is recommended to remove wire joint. crimp rated size of LUGs on wire terminal and make proper tightening on wire at MCB terminal.
				

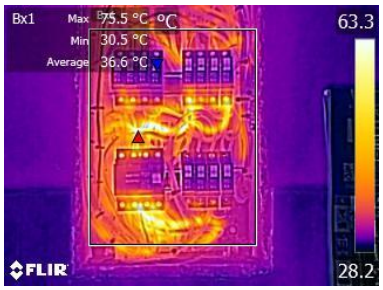
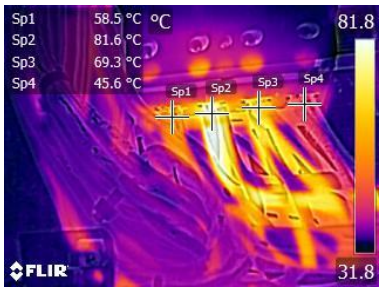
20	1st floor Principal room DB			**Observation:** Maximum temperature observed on wire terminal of MCB is **Bx1: 32.7 °C** **Recommendation:** Found Ok.
21	1st floor room no. 101 DB			**Observation:** Maximum temperature observed on cable terminal of MCB is **Bx1: 28.4 °C** **Recommendation:** Found Ok.
22	1st floor room no. 103 DB			**Observation:** Maximum temperature observed on cable terminal of MCB is **Bx1: 26.1 °C** **Recommendation:** Found Ok.
23	2nd floor room no. 212			**Observation:** Maximum temperature observed on wire terminal of MCB is **Bx1: 32.5 °C** **Recommendation:** Found Ok.
24	2nd floor room no. 202			**Observation:** Maximum temperature observed on wire terminal of MCB is **Bx1: 31.5 °C** **Recommendation:** Found Ok.

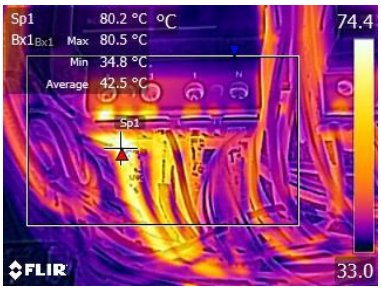
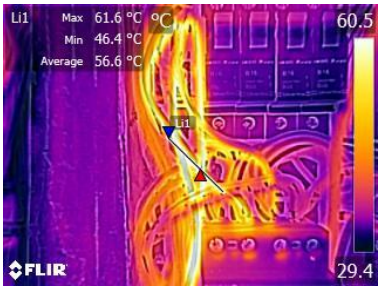
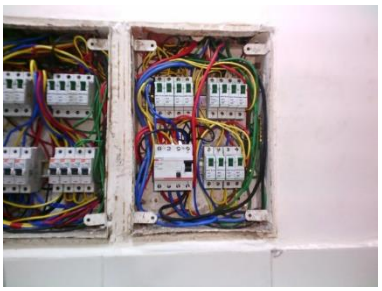
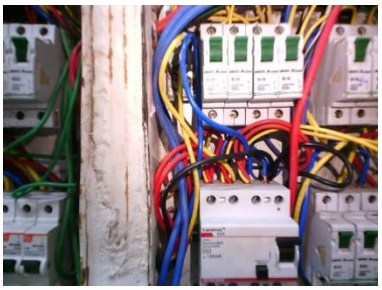
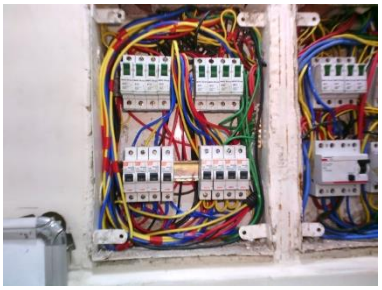
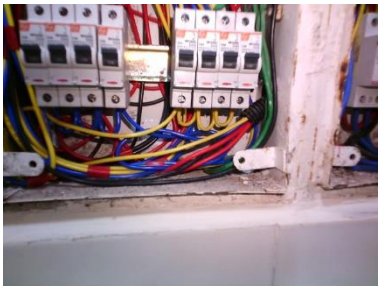
25	2nd floor room no. 203			**Observation:** Maximum temperature observed on wire terminal of MCB is **Bx1: 32.3 °C** **Recommendation:** Found Ok.
26	2nd floor room no. 213	 	 	**Observation:** Maximum temperature observed on wire terminal of RCCB is **Bx1: 68.6 °C** **Sp1: 148 °C** **Recommendation:** It is recommended to crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of RCCB.
27	3rd floor computer Lab-1 DB	 	 	**Observation:** Maximum temperature observed on wire terminal of RCCB and MCB is **Bx1: 31.4 °C** Maximum temperature observed on wire terminal of MCB is **Bx1: 31.5 °C**

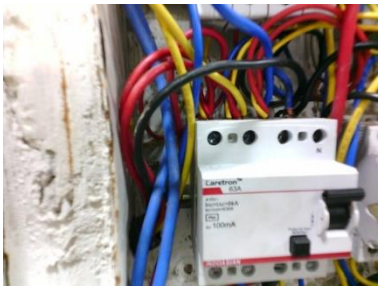
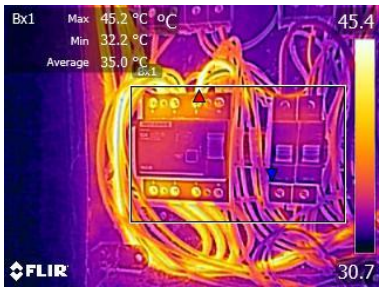
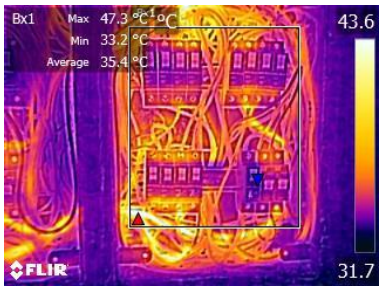
				Maximum temperature observed on wire terminal of MCB is **Bx1: 31.3 °C** **Recommendation:** Found Ok.
28	3rd floor computer Lab-2 DB			**Observation:** Maximum temperature observed on wire terminal of RCCB and MCB is **Bx1: 33.8 °C** **Recommendation:** Found Ok.
29	3rd floor computer Lab-3 DB	 	 	**Observation:** Maximum temperature observed on wire terminal of RCCB and MCB is **Bx1: 39.7 °C** Maximum temperature observed on incoming neutral wire of RCCB is **Sp1: 43.3 °C** **Recommendation:** It is recommended to crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of RCCB.
30	3rd floor computer Lab-4 DB			**Observation:** Maximum temperature observed on wire terminal of RCCB and MCB is **Bx1: 34.0 °C** **Recommendation:** Found Ok.

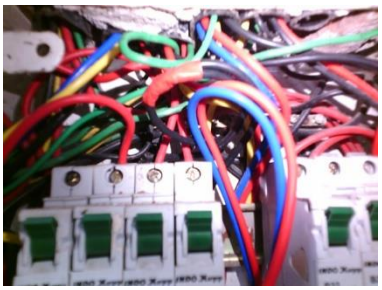
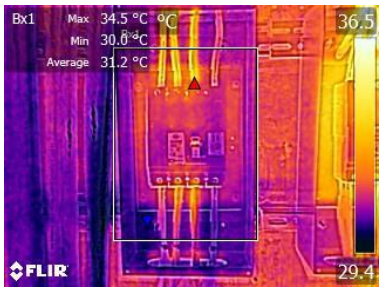
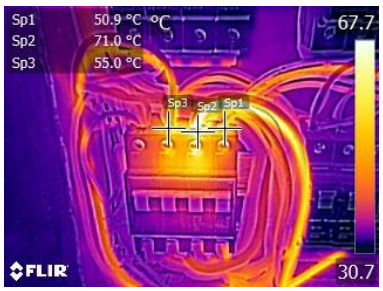
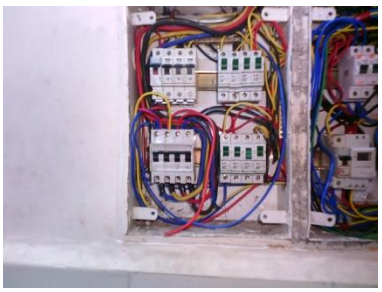
31	3rd floor electricity meter SFU			**Observation:** Maximum temperature observed on wire terminal of SFU is **Bx1: 36.8 °C** **Recommendation:** Found Ok.
32	3rd floor room no. 312 PDB	 	 	**Observation:** Maximum temperature observed on wire terminal of PDB is **Bx1: 32.9 °C** **Recommendation:** Found Ok. **Observation:** Maximum temperature observed on wire terminal of LDB is **Bx1: 32.2 °C** **Recommendation:** Found Ok.
33	3rd floor computer Lab-6 DB			**Observation:** Maximum temperature observed on wire terminal of MCB is **Bx1: 30.4 °C** **Recommendation:** Found Ok.
34	3rd floor computer Lab-5 DB			**Observation:** Maximum temperature observed on wire terminal of MCB is **Bx1: 33.8 °C** **Recommendation:** Found Ok.

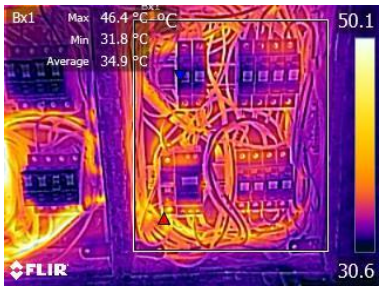
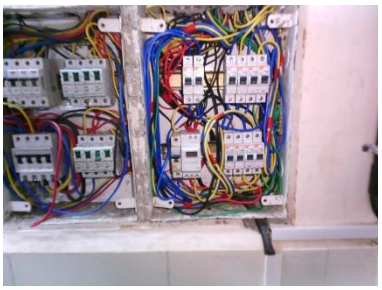
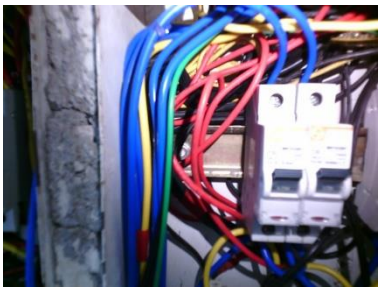
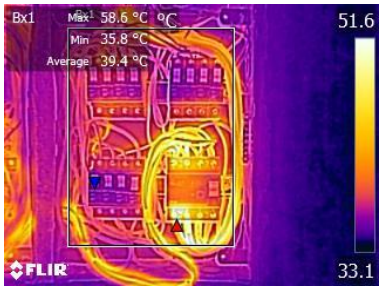
35	3rd floor room no. 313			**Observation:** Maximum temperature observed on wire terminal of MCB is **Bx1: 36.0 °C** **Recommendation:** Found Ok.
36	3rd floor Kitchen DB			**Observation:** Maximum temperature observed on wire terminal of MCB is **Bx1: 42.4 °C** **Recommendation:** It is recommended to crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of MCB.
37	3rd floor Kitchen			**Observation:** Maximum temperature observed on Modular switch and socket of electric oil heater is **Bx1: 47.2 °C** **Recommendation:** It is recommended to change the switch and socket with MCB operated industrial type socket.
38	4th floor Desai sir room DB			**Observation:** Maximum temperature observed on wire is **Bx1: 32 °C** **Recommendation:** Found Ok.

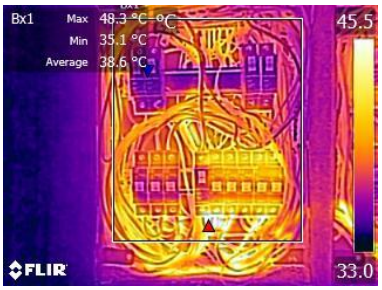
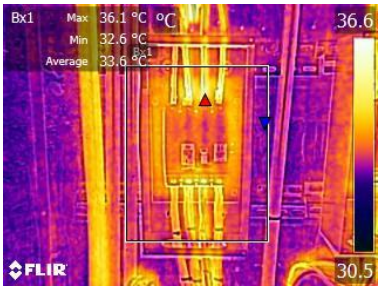
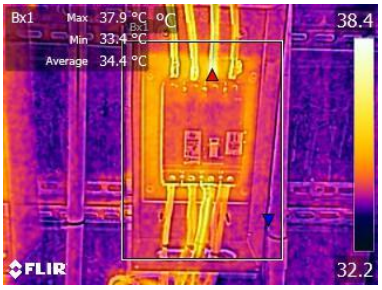
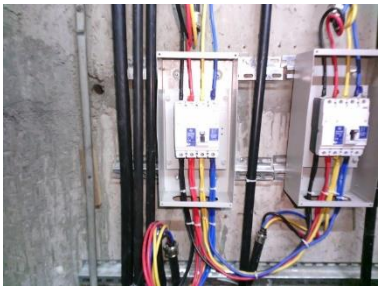
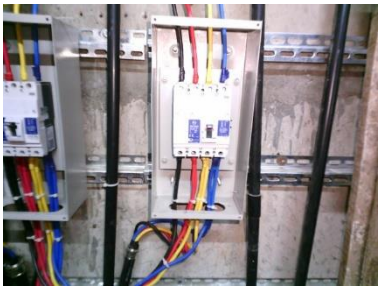
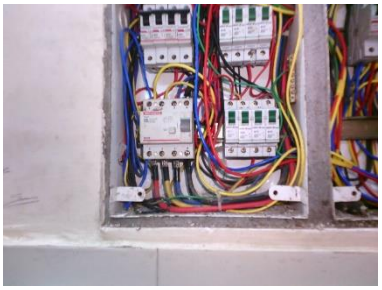
39	4th floor room no. 412 DB	  	  	**Observation:** Maximum temperature observed on Y-phase outgoing wire is **Bx1: 75.5 °C** Maximum temperature observed on Y-phase outgoing wire is **Sp1: 110 °C** Maximum temperature observed on incoming wire of RCCB is **Sp1: 58.5 °C** **Sp2: 81.6 °C** **Sp3: 69.3 °C** **Recommendation:** It is recommended to provide and install proper size wire to incoming wire of AC DB and crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of RCCB.
40	4th floor room no. 413 DB	 	 	**Observation:** Maximum temperature observed on incoming wire terminal of RCCB is **Bx1: 56.2 °C** Maximum temperature observed on R-phase outgoing wire is **Sp1: 64.1 °C** Maximum temperature observed on incoming wire of RCCB is **Sp1: 80.2 °C**

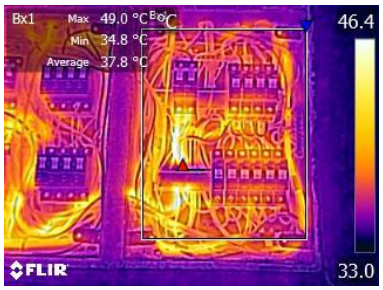
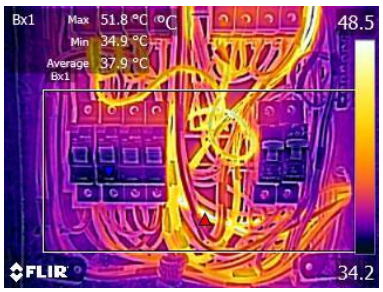
				**Recommendation:** It is recommended to crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of RCCB.
41	5th floor room no. 512 LDB	 	 	**Observation:** Maximum temperature observed on RCCB outgoing wire terminal is **Bx1: 53.9 °C** **Observation:** Maximum temperature observed on RCCB outgoing wire terminal is **Li1: 61.6 °C** **Recommendation:** It is recommended to provide and install proper size wire to outgoing wire of RCCB and crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of RCCB.
42	5th floor room no. 512 AC DB	 	 	**Observation:** Maximum temperature observed on AC DB incoming wire is **Bx1: 52.3 °C** **Observation:** Maximum temperature observed on AC DB incoming wire is **Li1: 52.8 °C** **Observation:** Maximum temperature observed on AC DB

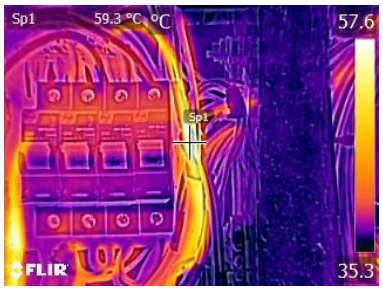
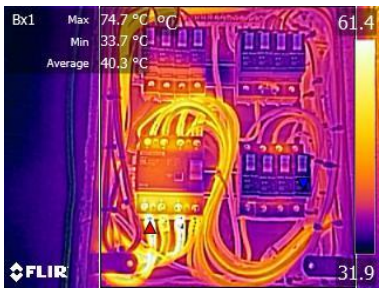
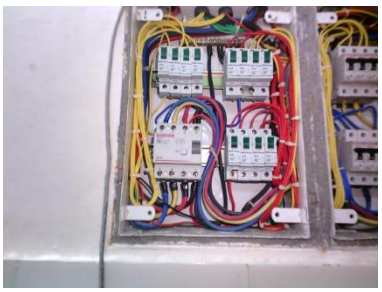
				incoming wire is **Li1: 73.8 °C** **Recommendation:** It is recommended to provide and install proper size wire to incoming wire of AC DB and crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of MCB.
43	5th floor room no. 513 LDB	 	 	**Observation:** Maximum temperature observed on RCCB outgoing wire terminal is **Bx1: 44.0 °C** **Observation:** Maximum temperature observed on RCCB outgoing wire terminal is **Li1: 45.2 °C** **Recommendation:** It is recommended to crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of RCCB.
44	5th floor room no. 513 AC DB			**Observation:** Maximum temperature observed on AC DB incoming wire is **Bx1: 52.3 °C** **Recommendation:** It is recommended to provide and install proper size wire to incoming wire of AC DB and crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of MCB.

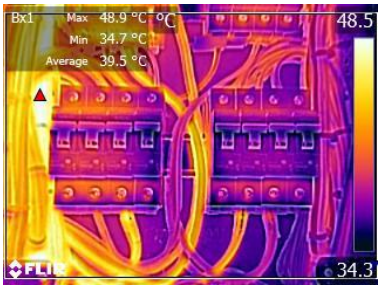
45	5th floor room no. 513 AC DB			**Observation:** Maximum temperature observed on Neutral wire joint is **Sp1: 46.1 °C** **Recommendation:** It is recommended to remove wire joint and connect direct neutral wire on terminal.
46	Main MCCB of 6th floor	 	 	**Observation:** Maximum temperature observed on MCCB terminals are **Bx1: 35.9 °C** **Bx1: 34.5 °C** **Recommendation:** Found OK.
47	LDB	 	 	**Observation:** Maximum temperature observed on MCB outgoing wire terminal is **Bx1: 66.7 °C** **Observation:** Maximum temperature observed on MCB outgoing wire terminal are **Sp1: 50.9 °C** **Sp2: 71.0 °C** **Sp3: 55.0 °C** **Recommendation:** It is recommended to provide and install

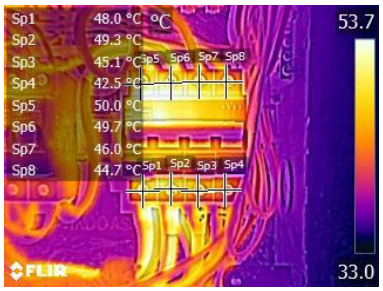
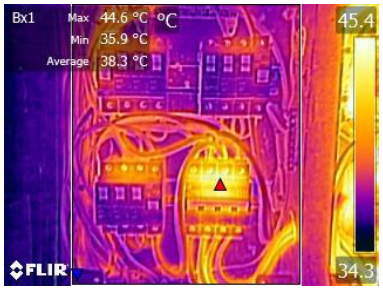
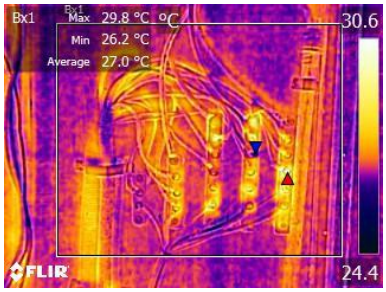
				proper size wire to AC DB and crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of MCB.
48	AC DB	 	 	**Observation:** Maximum temperature observed on MCB incoming wire terminal is **Bx1: 46.4 °C** **Observation:** Maximum temperature observed on incoming wire is **Sp1: 49.2 °C** **Recommendation:** It is recommended to provide and install proper size wire to AC DB and crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of MCB.
49	6th floor room no. 612 LDB	 	 	**Observation:** Maximum temperature observed on RCCB incoming wire terminal is **Bx1: 58.6 °C** **Observation:** Maximum temperature observed on RCCB incoming wire terminal are **Sp1: 52.2 °C** **Sp2: 54.7 °C** **Sp3: 46.6 °C** **Recommendation:** It is recommended to make proper tightening on wire terminal of RCCB.

50	ACDB	 	 	**Observation:** Maximum temperature observed on MCB incoming wire terminal is **Bx1: 48.3 °C** **Observation:** Maximum temperature observed on MCB incoming wire terminal is **Sp1: 46.8 °C** **Recommendation:** It is recommended to removed looping of wire and provide Cu. Shorting link.
51	Main MCCB of 7th floor	 	 	**Observation:** Maximum temperature observed on MCCB terminals are **Bx1: 36.1 °C** **Bx1: 37.9 °C** **Recommendation:** Found OK.
52	LDB			**Observation:** Maximum temperature observed on AC DB outgoing wire is **Bx1: 46.3 °C** **Recommendation:** It is recommended to crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of MCB.

53	AC DB	 	 	**Observation:** Maximum temperature observed on AC DB outgoing wire is **Bx1: 49.0 °C** **Sp1: 49.6 °C** **Recommendation:** It is recommended to replace the incomer wire of AC DB with 10sqmm wire and crimp rated size of LUG to wire terminal.
54	7th floor room no. 712 LDB	 	 	**Observation:** Maximum temperature observed on MCB outgoing wire is **Bx1: 45.6 °C** **Observation:** Maximum temperature observed on MCB outgoing wire is **Sp1: 45.6 °C** **Sp2: 45.2 °C** **Recommendation:** It is recommended to crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of MCB.
55	7th floor room no. 712 AC DB			**Observation:** Maximum temperature observed on AC DB outgoing wire is **Bx1: 51.8 °C** **Recommendation:** It is recommended to replace the incomer wire of AC DB with 10sqmm wire and crimp rated size of LUG to wire terminal.

56	7th floor room no. 712 AC DB	  	  	**Observation:** Maximum temperature observed on Neutral wire joint is **Sp1: 60.4 °C** **Sp1: 56.3 °C** **Sp1: 59.3 °C** **Recommendation:** It is recommended to remove wire joint and connect direct neutral wire on terminal.
57	Main MCCB of 8th floor Library side DB			**Observation:** Maximum temperature observed on R-phase outgoing cable terminals is **Bx1: 42.4 °C** **Recommendation:** Found OK
58	LDB			**Observation:** Maximum temperature observed on MCB incoming wire terminals is **Bx1: 74.7 °C**

		 	 	**Observation:** Maximum temperature observed on MCB incoming wire terminals is **Bx1: 79.0 °C** **Observation:** Maximum temperature observed on MCB outgoing wire terminals are **Sp1: 49.6 °C** **Sp2: 52.4 °C** **Sp3: 58.7 °C** **Recommendation:** Rated size of LUGs are need to be crimp on wire terminal and make proper tightening on wire terminal of MCB.
59	AC DB			**Observation:** Maximum temperature observed on incoming wire is **Bx1: 48.9 °C** **Recommendation:** It is recommended to replace the incomer wire of AC DB with 10sqmm wire and crimp rated size of LUG to wire terminal.
60	Main MCCB of 8th floor 812 side DB			**Observation:** Maximum temperature observed on Y-phase outgoing cable terminals is **Bx1: 40.2 °C** **Recommendation:** Found OK

61	AC DB	 	 	**Observation:** Maximum temperature observed on MCB outgoing terminals is **Bx1: 56 °C** Maximum temperature observed on MCB outgoing & incoming terminals are **Sp1: 48 °C** **Sp2: 49.3 °C** **Sp3: 45.1 °C** **Recommendation:** It is recommended to crimp rated size of LUGs on wire terminal and make proper tightening on wire terminal of MCB.
62	LDB	 	 	**Observation:** Maximum temperature observed on MCB terminals is **Bx1: 44.6 °C** **Bx1: 45.2 °C** **Recommendation:** Found OK.
63	3rd floor Computer Lab-1 bus bar chamber			**Observation:** Maximum temperature observed on bus bar cable terminals is **Bx1: 29.8 °C** **Recommendation:** Found OK.

vi) MCB AND WIRING DETAILS

Sr. No	Location	MCB / Fuse rating	Wire / cable Size	Wire / cable current capacity	Remark
1	**Adani Power Meter room**				
2	Ground floor Electricity meter	250A SFU	3.5 C x 70 sqmm cable	**184 A**	Sufficient
3	Bus bar chamber O/G cables	O/G cable 3 (outside Bus bar chamber)	3.5 C x 25 sqmm cable	**96 A**	Sufficient
4		O/G cable 4 (capacitor bank)	(1C*3) x 6 sqmm wire	**41 A**	Sufficient
5	Ground floor Electrical Panel	O/G cable 1&2 (Outside electrical panel)	3.5 C x 35 sqmm cable	**119 A**	Sufficient
6	Ground floor adani meter room	1st floor 250A SFU outgoing cable	(1C*4) x 10 sqmm wire R(1C*1) x 4 sqmm wire Y(1C*1) x 4 sqmm wire B(1C*2) x 4 sqmm wire	(57+32) A : **89 A**	Over rated OCPD
		2nd floor 250A SFU outgoing cable	(1C*4) x 10 sqmm wire 2Run R(1C*2) x 4 sqmm wire B(1C*2) x 4 sqmm wire	(57+32) A : **89 A**	Over rated OCPD
		3rd floor 250A SFU outgoing cable	3.5 C x 70 sqmm cable (1C*4) x 10 sqmm wire R(1C*2) x 4 sqmm wire B(1C*1) x 4 sqmm wire	(184+57+32) A **:273 A**	Sufficient
		4th floor 250A SFU outgoing cable	(1C*4) x 10 sqmm wire R(1C*2) x 4 sqmm wire Y(1C*2) x 4 sqmm wire B(1C*2) x 4 sqmm wire	(57+32x2) A **:121 A**	Over rated OCPD
		5th floor 250A SFU outgoing cable	(1C*4) x 10 sqmm wire 2Run	(57x2) A **: 114 A**	Over rated OCPD
7	Ground floor TATA power meter room	400A MCCB	3.5 C x 185 sqmm cable	**341 A**	Sufficient
		250A SFU	3.5 C x 120 sqmm cable	**259 A**	Sufficient
		I/C to FAS Panel	4 C x 1.5 sqmm cable-2Run		Sufficient
		I/C to Fire Panel	4 C x 16 sqmm cable-2Run	**152A**	Sufficient
		I/C to Lift SFU	4 C x 10 sqmm cable 2 C x 2.5 sqmm cable	**57 A**	Sufficient
		I/C to 125A SFU 6th floor	4 C x 16 sqmm cable-3Run	**228 A**	Sufficient
		I/C to 125A SFU 8th floor	4 C x 16 sqmm cable-3Run	**228 A**	Sufficient
8	8th floor electrical shaft	I/C to 125A MCCB	3.5 C x 70 sqmm cable	**184 A**	Sufficient
9	7th floor electrical	I/C to 125A MCCB	4 C x 16 sqmm cable-3Run	**228 A**	Sufficient

	shaft				
10	6th floor electrical shaft	I/C to 125A MCCB	4 C x 16 sqmm cable-3Run	**228 A**	Sufficient

Kindly Note:

Wire / cable current carrying capacity in Ampere is taken from reference Table 20 of IS 732:2019

Observation:

- It is observed that in meter room SFU (Over Current Protective devices) installed for floors 1st, 2nd, 4th , 5th are **over rated** as compare to existing sizing of cable. Regulation 12 of CEA 2010 is not followed.
- It is observed that some flexible cables from meter cabin SFU are directly inserted in Single Pole SP MCB of distribution boards on floors without any switching device / 4P MCB for controlling it.

Recommendation:

- It is recommended to replace existing 250 A rated SFU with 100 A SFU.
- It is recommended to upgrade 4C x 10 sqmm cable with 4C x 16 sqmm Cu cable.

3. TOTAL CONNECTED LOAD LIST

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
1	1st Floor	Room No : 112	Air Conditioner	1	1500	1500
			Tube light	4	40	160
			Fan	2	70	140
			Computer	2	300	600
			Printer	1	250	250
			Xerox Machine	2	1000	2000
2	1st Floor	Room No : 101	Air Conditioner	2	1500	3000
			Down Led	4	12	48
			Fan	6	70	420
			Computer	6	300	1800
			Printer	4	250	1000
			Xerox Machine	1	1000	1000
3	1st Floor	Room No : 102	Air Conditioner	2	1500	3000
			Tube light	7	40	280
			Fan	6	70	420
4	1st Floor	Room No : 103	Air Conditioner	2	1500	3000
			Down Led	22	12	264
			Fan	8	70	560
			Computer	10	300	3000
			Printer	2	250	500
			Xerox Machine	1	1000	1000
			Electric Kettle	1	1500	1500
			ID Printing machine	1	400	400
			Scanner	1	250	250
			Xerox Machine	1	500	500
5	1st Floor	Room No : 104	Air Conditioner	2	1500	3000
			Tube light	7	40	280
			Fan	6	70	420
6	1st Floor	Room No : 105	Air Conditioner	2	1500	3000
			Tube light	7	40	280
			Fan	6	70	420
7	1st Floor	Room No : 106	Tube light	10	40	400
			Exhaust Fan	2	70	140
			Fan	8	70	560

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
8	1st Floor	Boys Toilet	Tube light	2	40	80
			Exhaust Fan	2	70	140
9	1st Floor	Ladies Toilet	Tube light	2	40	80
			Exhaust Fan	2	70	140
10	1st Floor	Handicaped Toilet	Tube light	1	40	40
11	1st Floor	Room No : 107	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
12	1st Floor	Room No : 108	Tube light	7	40	280
			Fan	7	70	490
			Air Conditioner	2	1500	3000
13	1st Floor	Room No : 109-110	Down Led	5	12	60
		office all	Led tv	1	50	50
			Printer	1	500	500
			Down Led	7	12	84
			Fan	2	70	140
			Air Conditioner	1	1500	1500
			Led tv	1	50	50
			Down Led	4	12	48
			Fan	1	70	70
			Down Led	8	12	96
			Led tv	1	50	50
			Air Conditioner	1	1500	1500
			Down Led	8	12	96
			Air Conditioner	1	1500	1500
			Tube light	1	40	40
			Down Led	8	12	96
			Fan	2	70	140
			Computer	1	300	300
			Printer	1	250	250
			Down Led	6	12	72

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
			Air Conditioner	1	1500	1500
			Air Conditioner	1	1500	1500
			Down Led	6	12	72
			Led tv	1	50	50
			Down Led	12	12	144
			Air Conditioner	1	1500	1500
			Fan	2	70	140
			Computer	1	300	300
			Led tv	1	50	50
14	1st Floor	Room No : 111	Down Led	12	12	144
			Fan	2	70	140
			Computer	1	300	300
			Led tv	1	50	50
15	1st Floor	Passage	Down Led	69	12	828
			Fan	4	70	280
			Wall Mount Fan	1	80	80
16	1st Floor	Room No : 113	Tube light	2	40	80
			Fan	1	70	70
			Fridge	1	350	350
17	2nd Floor	Room No : 212	Tube light	4	40	160
			Fan	2	70	140
18	2nd Floor	Room No : 201	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
19	2nd Floor	Room No : 202	Tube light	12	40	480
			Fan	6	70	420
			Air Conditioner	2	1500	3000
20	2nd Floor	Room No : 203	Tube light	1	40	40
			Fan	8	70	560
			Air Conditioner	2	1500	3000
			Down Led	16	12	192
			Projector	1	150	150
			CPU/ Amplifier	1	300	300

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
			Computer	1	300	300
21	2nd Floor	Room No : 204	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
22	2nd Floor	Room No : 205	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
23	2nd Floor	Room No : 206	Tube light	13	40	520
			Exhaust Fan	4	70	280
			Fan	8	70	560
24	2nd Floor	Room No : 216	Tube light	2	40	80
			Exhaust Fan	2	70	140
25	2nd Floor	Room No : 217	Tube light	2	40	80
			Exhaust Fan	2	70	140
		Passage	Water cooler	1	500	500
26	2nd Floor	Room No : 207	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
27	2nd Floor	Room No : 208	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
28	2nd Floor	Room No : 209	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
29	2nd Floor	Room No : 213	Tube light	2	40	80
			Fan	1	70	70
			Air Conditioner	1	1500	1500
30	2nd Floor	Room No : 210	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
31	2nd Floor	Room No : 211	Tube light	6	40	240

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
			Fan	8	70	560
			Air Conditioner	3	1500	4500
32	2nd Floor	Passage	Tube light	8	40	320
			Fan	3	70	210
33	2nd Floor	Principal Office	Down Led	15	12	180
			Fan	4	70	280
			Computer	1	300	300
			Printer	1	250	250
			Air Conditioner	1	1500	1500
34	3rd Floor	Room No : 301	Tube light	7	40	280
			Fan	7	70	490
			Air Conditioner	2	1500	3000
35	3rd Floor	Room No : 302	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			Computer	33	300	9900
36	3rd Floor	Room No : 303	Down Led	16	12	192
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			Computer	32	300	9600
			Tube light	1	40	40
			Printer	1	250	250
37	3rd Floor	Room No : 304	Down Led	16	12	192
			Fan	2	70	140
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			Computer	32	300	9600
			Tube light	1	40	40
38	3rd Floor	Room No : 305	Down Led	17	12	204
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			Computer	32	300	9600

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
39	3rd Floor	Room No : 306	Down Led	13	12	156
			Fan	6	70	420
			Air Conditioner	3	1500	4500
			Projector	1	150	150
			Computer	50	300	15000
40	3rd Floor	Room No : 312	Computer	12	300	3600
			Air Conditioner	1	1500	1500
			Fan	2	70	140
			Tube light	4	40	160
			Scanner	1	250	250
41	3rd Floor	Room No : 311	Tube light	9	40	360
			Fan	12	70	840
			Air Conditioner	4	1500	6000
42	3rd Floor	Room No : 310	Computer	3	300	900
			Air Conditioner	2	1500	3000
			Fan	4	70	280
			Tube light	6	40	240
			Scanner	1	250	250
			Printer	1	250	250
			Printer	1	500	500
43	3rd Floor	Room No : 309	Tube light	7	40	280
			Fan	6	70	420
44	3rd Floor	Room No : 308 Canteen	Tube light	20	40	800
			Fan	12	70	840
			Exhaust Fan	2	70	140
			Electric Stove	1	3000	3000
			Fridge	3	1500	4500
			Oven	1	1500	1500
			Grill Machine	1	2000	2000
			Idli Maker	1	1000	1000
			Idli Grinder	1	1500	1500
45	3rd Floor	Room No : 316	Tube light	2	40	80
			Exhaust Fan	2	70	140

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
46	3rd Floor	Room No : 317	Tube light	2	40	80
			Exhaust Fan	2	70	140
47	3rd Floor	Room No : 313	Tube light	3	40	120
			Fan	1	70	70
48	4th Floor	Room No : 406A:	Tube light	4	40	160
			Fan	2	70	140
			Air Conditioner	1	1500	1500
49	4th Floor	Room No : 416	Tube light	2	40	80
			Exhaust Fan	2	70	140
50	4th Floor	Room No : 417:	Tube light	2	40	80
			Exhaust Fan	2	70	140
		Passage	Water cooler	1	500	500
51	4th Floor	Room No : 418	Tube light	1	40	40
52	4th Floor	Room No : 407	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
53	4th Floor	Room No : 408	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
54	4th Floor	Room No : 409	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
55	4th Floor	Room No : 410	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
56	4th Floor	Room No : 411	Tube light	8	40	320
			Fan	12	70	840
			Air Conditioner	5	1500	7500
			Electric Kettle	1	1500	1500
57	4th Floor	Passage	Tube light	9	40	360
58	4th Floor	Room No : 412	Down Led	8	12	96
			Fan	2	70	140
			Air Conditioner	1	1500	1500
			Computer	1	300	300
			Printer	1	250	250
59	4th Floor	Room No : 401	Down Led	10	12	120
			Fan	6	70	420
			Air Conditioner	3	1500	4500
			Computer	4	300	1200
			Printer	2	250	500
			Down Led	8	12	96
60	4th Floor	Room No : 402	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Computer	1	300	300
			Printer	1	250	250
			Thumb Scanner	1	50	50
61	4th Floor	Room No : 403	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
62	4th Floor	Room No : 404	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
63	4th Floor	Room No : 405	Tube light	7	40	280
			Fan	6	70	420

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
64	4th Floor	Room No : 406	Tube light	9	40	360
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
65	5th Floor	Room No : 513	Tube light	3	40	120
			Fan	1	70	70
66	5th Floor	Room No : 509	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
67	5th Floor	Room No : 510	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
68	5th Floor	Room No : 508	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
69	5th Floor	Room No : 507	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
70	5th Floor	Room No : 516	Tube light	2	40	80
			Exhaust Fan	2	70	140
71	5th Floor	Room No : 517	Tube light	2	40	80
			Exhaust Fan	2	70	140

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
72	5th Floor	Room No : 518	Tube light	1	40	40
73	5th Floor	Room No : 506A	Tube light	4	40	160
			Fan	2	70	140
			Air Conditioner	1	1500	1500
			Computer	7	300	2100
			Printer	1	250	250
			Led tv	1	50	50
74	5th Floor	Room No : 506	Tube light	9	40	360
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
75	5th Floor	Room No : 505	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
76	5th Floor	Room No : 504	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
76	5th Floor	Room No : 503	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
77	5th Floor	Room No : 502	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
78	5th Floor	Room No : 501	Tube light	7	40	280
			Fan	6	70	420

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
79	5th Floor	Room No : 512	Tube light	8	20	160
			Fan	2	70	140
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			Printer	1	250	250
80	5th Floor	Room No : 511	Tube light	7	20	140
			Fan	12	70	840
			Air Conditioner	4	1500	6000
			Computer	1	300	300
81	5th Floor	Passage	Tube light	8	40	320
82	6th Floor	Room No : 607	Tube light	7	20	140
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
83	6th Floor	Room No : 608	Tube light	7	20	140
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
84	6th Floor	Room No : 609	Tube light	7	20	140
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
85	6th Floor	Room No : 610	Tube light	7	20	140
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
86	6th Floor	Room No : 611	light is not available in fire brigade room.			

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
87	6th Floor	Room No : 601	Tube light	7	20	140
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
88	6th Floor	Room No : 602	Tube light	7	20	140
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
89	6th Floor	Room No : 603	Tube light	7	20	140
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
90	6th Floor	Room No : 604	Tube light	7	20	140
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
91	6th Floor	Room No : 605	Tube light	7	20	140
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
92	6th Floor	Room No : 606	Tube light	9	20	180
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
93	6th Floor	Room No : 606A	Tube light	2	20	40
			Fan	2	70	140
94	6th Floor	Room No : 612	Tube light	4	20	80
			Fan	2	70	140

Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
95	6th Floor	Room No : 613	Tube light	1	20	20
			Fan	1	70	70
96	6th Floor	Passage	Tube light	8	40	320
97	6th Floor	Room No : 616	Tube light	2	40	80
			Exhaust Fan	1	70	70
98	6th Floor	Room No : 617	Tube light	2	40	80
			Exhaust Fan	1	70	70
		Passage	Water cooler	1	500	500
99	6th Floor	Room No : 613	Tube light	1	40	40
100	7th Floor	Room No : 707	Tube light	6	40	240
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
101	7th Floor	Room No : 708	Tube light	6	40	240
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
102	7th Floor	Room No : 709	Tube light	6	40	240
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
103	7th Floor	Room No : 710	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
104	7th Floor	Room No : 714	Tube light	4	40	160
			Fan	4	70	280
			Air Conditioner	1	1500	1500
105	7th Floor	Room No : 711	Tube light	7	40	280

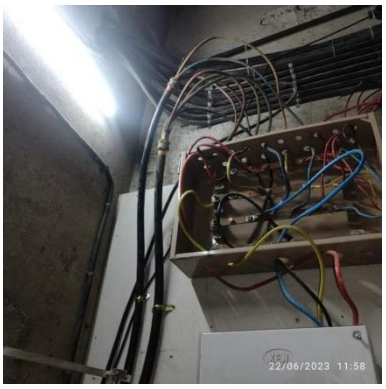
Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
			Fan	8	70	560
			Air Conditioner	3	1500	4500
			Projector	1	150	150
106	7th Floor	Room No : 701	Tube light	12	18	216
			Fan	7	70	490
			Air Conditioner	3	1500	4500
			LED	4	12	48
107	7th Floor	Room No : 702	Tube light	6	40	240
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
108	7th Floor	Room No : 703	Tube light	6	40	240
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
109	7th Floor	Room No : 704	Tube light	6	40	240
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
110	7th Floor	Room No : 705	Tube light	6	40	240
			Fan	6	70	420
			Air Conditioner	2	1500	3000
			Projector	1	150	150
			CPU/ Amplifier	1	300	300
110	7th Floor	Auditorium	Air Conditioner	4	2000	8000
			Tube light	16	40	640
			Fan	6	70	420
			Projector	1	150	150
			LED Focus	2	60	120
111	7th Floor	Boys Toilet	Tube light	2	40	80
			Exhaust Fan	2	70	140

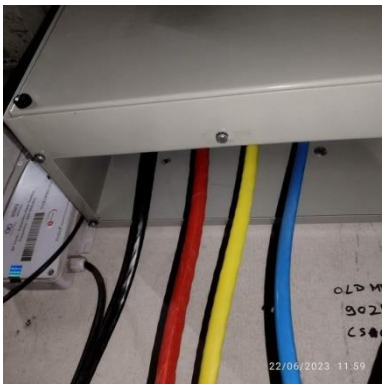
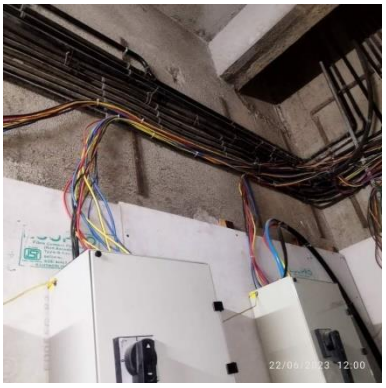
Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
112	7th Floor	Ladies Toilet	Tube light	2	40	80
			Exhaust Fan	2	70	140
113	7th Floor	Handicapped Toilet	Tube light	1	40	40
114	8th Floor	Library	Tube light	88	36	3168
			Tube light	1	40	40
			Fan	31	70	2170
			Air Conditioner	14	1500	21000
			Computer	20	300	6000
			Xerox Machine	1	500	500
115	8th Floor	Room No : 811B	Fan	4	70	280
			Tube light	4	40	160
			Tube light	2	36	72
			Projector	1	150	150
116	8th Floor	Room No : 801	Tube light	7	40	280
			Fan	4	70	280
			Air Conditioner	2	1500	3000
117	8th Floor	Room No : 802	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
118	8th Floor	Room No : 803	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
119	8th Floor	Room No : 804	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
120	8th Floor	Room No : 805	Tube light	7	40	280
			Fan	6	70	420
			Air Conditioner	2	1500	3000
120	8th Floor	Room No : 806	Tube light	11	40	440
			Fan	8	70	560
			Air Conditioner	2	1500	3000
121	8th Floor	Boys Toilet 816	Tube light	2	40	80

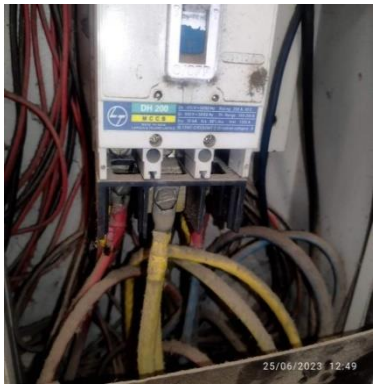
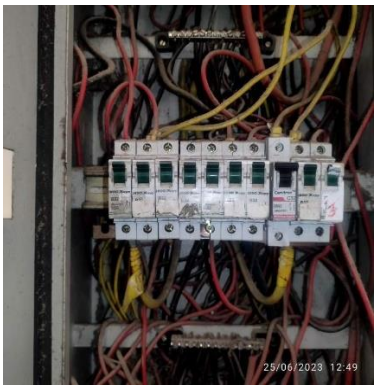
Sr. No.	Floor	Location	Load	Quantity	Wattage	Total load
			Exhaust Fan	2	70	140
122	8th Floor	Ladies Toilet 817	Tube light	2	40	80
			Exhaust Fan	2	70	140
123	8th Floor	Handicapped Toilet 818	Tube light	1	40	40
		Passage	Water cooler	1	500	500
120	8th Floor	Room No : 812	Tube light	4	40	160
			Fan	2	70	140
121	Ground Floor	TATA Power meter room	Fire pump	1	55000	55000
			Water pump	1	3750	3750

GENERAL ELECTRICAL SAFETY OBSERVATION AND RECOMMENDATION

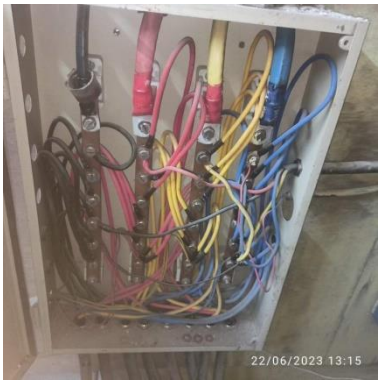
In accordance with the Section 177 of the Electricity Act, 2003, Measures relating to Safety and Electric Supply Regulations, 2010 on 24.09.2010, National Electrical Code of India 2023, IS 723, IS 3043 and applied Code of Practice in electrical division, general electrical safety observation has been concluded and recommendation for improving electrical network listed below.

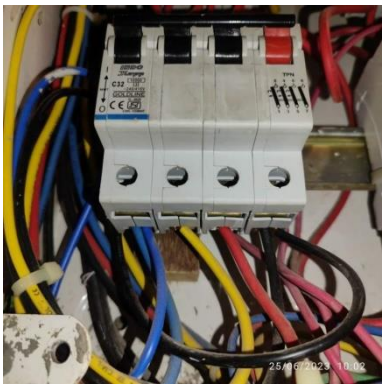
Sr. No.	Location	Image	Description of Defects	Recommendation
1	Adani electricity meter room	  	1. Insulation Rubber mat is not available in front of electrical installations. 2. Display of Instructions chart for resuscitation of persons suffering from electric shock is not affix in electrical meter room. 3. Danger Notice is not affixed on electrical panel and DB. 4. Electrical Single line diagram of electrical installation is not available near electrical panel/DB. 5. Proper Tagging on all SFU switch/Cable is not provided for identification.	1. It is recommended to place Insulation Rubber mat having IS 15652:2006 standard in front of electrical panel as per CEA Regulation19 (5). 2. It is recommended to affix display of Instructions for resuscitation of persons suffering from electric shock in a “conspicuous place” as per CEA Regulation 28. 3. It is recommended to affix Danger notice in a conspicuous position in Hindi or English and local language of the district with sign of skull and bones of a design having IS2551 as per CEA Regulation 18. 4. It is recommended to prepare and affix Electrical Single Line Diagram near electrical installation as per NEC 2023. 5. It is recommended to affix tag on SFU/Cable for identification purpose along with directional arrows and its size on all cable as per NEC 2023.

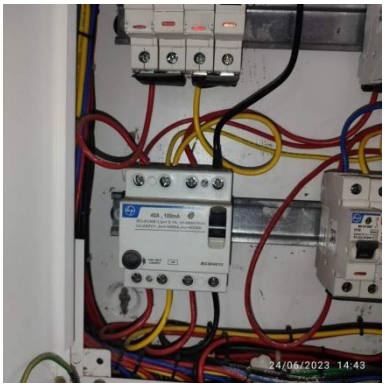
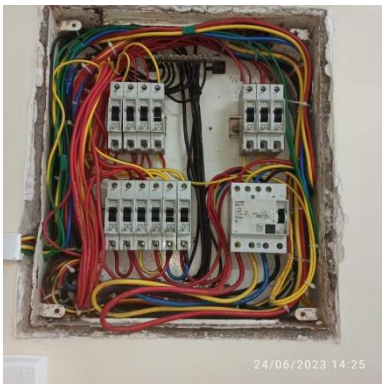
			6. Unwanted Material is Observed in electric meter room.	6. It is recommended to Remove unwanted material immediately from electric meter room.
			7. MCB and Busbar Chamber are found open.	7. Provide enclosure cover for busbar board and MCB DB to prevent deposition of dust and unwanted tripping from insects.
			8. SFU switch is found open from lower / upper side.	8. SFU switch is need to be enclosed properly from upper / lower side to prevent deposition of dust and unwanted tripping from insects.
			9. Small size wire is used for body Earthing of SFU switch and DB.	9. It is recommended to Provide 25*3 size GI earth strip for protective body Earthing to SFU switch and DB as Per IS3043.
			10. Multiple wires are directly connected at outgoing termination Point of SFU switch in adani electric meter room.	10. It is recommended to install rated size of ring type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023
			11. Multiple outgoing wire observed from SFU switch without any protection.	11. it is recommended to lay outgoing wire properly in PVC conduit pipe.
			12. Dust is observed in SFU switch and DB	12. Cleaning of panel shall be done at regular interval.

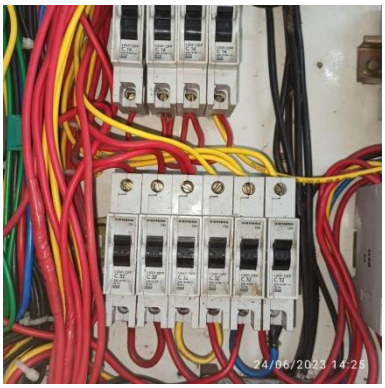
2	Ground Floor Hall Electrical Panel		1. Tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Danger Notice is not affixed on electrical panel and DB.	2. It is recommended to affix Danger notice in a conspicuous position in Hindi or English and local language of the district with sign of skull and bones of a design having IS2551 as per CEA Regulation 18.
			3. Insulation Rubber mat is not available in front of electrical installations.	3. It is recommended to place Insulation Rubber mat having IS 15652:2006 standard in front of electrical panel as per CEA Regulation19 (5).
			4. Dust is observed in electric Panel.	4. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			5. Lugs are not observed on wire terminal of MCB.	5. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
			6. Multiple wires are connected at SP MCB outgoing terminal.	6. It is recommended to connect one wire at MCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.

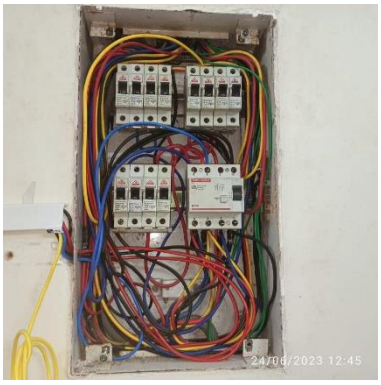
3	TATA Power meter room		1. Insulation Rubber mat is not available in front of electrical installations.	1. It is recommended to place Insulation Rubber mat having IS 15652:2006 standard in front of electrical panel as per CEA Regulation19 (5).
			2. Display of Instructions chart for resuscitation of persons suffering from electric shock is not affix in electrical meter room.	2. It is recommended to affix display of Instructions for resuscitation of persons suffering from electric shock in a “conspicuous place” as per CEA Regulation 28.
			3. Unwanted opening is observed at Main panel of meter.	3. Opening of panel is need be enclosed properly by rubber grommet.
			4. Danger Notice is not affixed on electrical panel and DB.	4. It is recommended to affix Danger notice in a conspicuous position in Hindi or English and local language of the district with sign of skull and bones of a design having IS2551 as per CEA Regulation 18.
			5. Electrical Single line diagram of electrical installation is not available near electrical panel/DB.	5. It is recommended to prepare and affix Electrical Single Line Diagram near electrical installation as per NEC 2023.
			6. Proper Tagging on all SFU switch/Cable is not provided for identification.	6. It is recommended to affix tag on SFU/Cable for identification purpose along with directional arrows and its size on all cable as per NEC 2023.

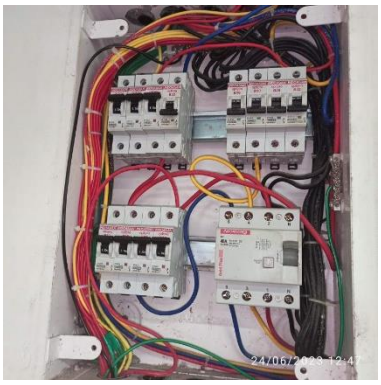
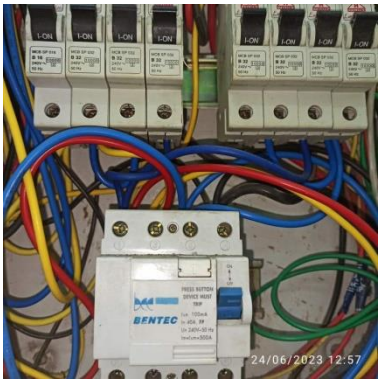
				
			7. Dust is observed in electric Panel.	7. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			8. Protective earth conductor is found disconnected and not connected to SFU, Busbar chamber and MCCB enclosure body earth.	8. It is recommended to Provide 25*3 size GI earth strip for protective body Earthing to SFU, Busbar chamber and MCCB enclosure body earth as Per IS3043.
				

				
4	1st Floor Junior college office Room No-101 Electrical DB		1. Looping is observed on all R, Y and B Phase of SP MCB.	1. Looping are need to be removed and connect rated size of copper shorting link at SP MCB incomer.
			2. Lugs are not observed at wire terminal.	2. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
5	1st Floor Junior college office Room No-103 Electrical DB		1. Tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.

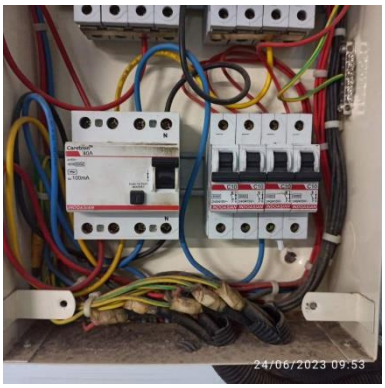
6	1st Floor Principle in charge office Electrical DB		1. Tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Lugs are not observed on wire terminal of MCB.	2. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
7	1st Floor Room No-112 Electrical DB'		1. Looping is observed on SP MCB.	1. Looping are need to be removed and connect rated size of copper shorting link at SP MCB incomer.
			2. Lugs are not observed on wire terminal of MCB.	2. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.

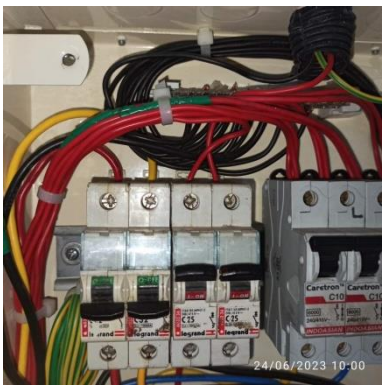
			3. Multiple wires are connected at SP MCB outgoing terminal.	3. It is recommended to connect one wire at MCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.
8	1st Floor Room No-113 Electric Shaft		1. Tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Dust is observed in electric DB.	2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			3. Lugs are not observed on wire terminal of MCB.	3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
			4. Looping is observed on SP MCB.	4. Looping are need to be removed and connect rated size of copper shorting link at SP MCB incomer

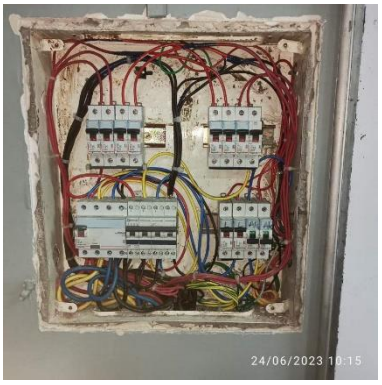
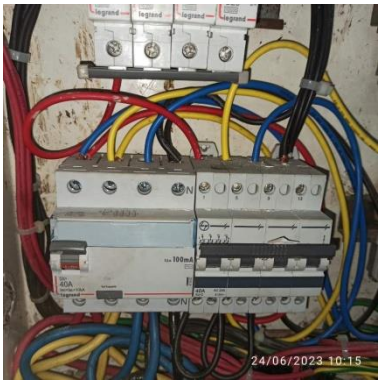
9	2nd Floor Room No-212		1. Tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Dust is observed in electric DB.	2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			3. Lugs are not observed on wire terminal of MCB.	3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
			4. Looping is observed on SP MCB.	4. Looping are need to be removed and connect rated size of copper shorting link at SP MCB incomer
			5. Multiple wires are connected at RCCB outgoing and incoming terminal.	5. It is recommended to connect one wire at RCCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.
10	2nd Floor Room No-202		1. Tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Lugs are not observed on wire terminal of MCB.	2. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.

			3. Dust is observed in electric DB.	3. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
11	2nd Floor Room No-203		1. Tagging is not observed on all MCB for identification. 2. Lugs are not observed on wire terminal of MCB. 3. Dust is observed in electric DB.	1. It is recommended to affix tag on MCB for identification. 2. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023. 3. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
12	2nd Floor Room No-213	 	1. Tagging is not observed on all MCB for identification. 2. Dust is observed in electric DB. 3. Lugs are not observed on wire terminal of MCB. 4. Looping is observed on SP MCB.	1. It is recommended to affix tag on MCB for identification. 2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval. 3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023. 4. Looping are need to be removed and connect rated size of copper shorting link at SP MCB incomer

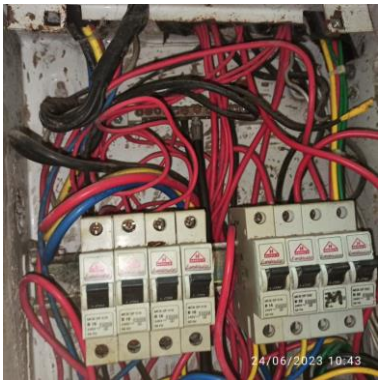
			5. Multiple wires are connected at RCCB outgoing and incoming terminal.	5. It is recommended to connect one wire at RCCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.
13	3rd Floor Room No-312 Electrical DB	  	1. Proper tagging is not observed on all MCB for identification. 2. Dust is observed in electric DB.	1. It is recommended to affix tag on MCB for identification. 2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.

			3. Lugs are not observed on wire terminal of MCB.	3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
14	3rd Floor Room No-301 Electrical DB Computer lab 6		1. Proper tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Dust is observed in electric DB.	2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			3. Lugs are not observed on wire terminal of MCB.	3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
15	3rd Floor Room No-302 Electrical DB Computer lab 5		1. Proper tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.

			2. Dust is observed in electric DB.	2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			3. Lugs are not observed on wire terminal of MCB.	3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
16	3rd Floor Room No-303 Electrical DB Computer lab 4		1. Proper tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Dust is observed in electric DB.	2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			3. Lugs are not observed on wire terminal of MCB.	3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.

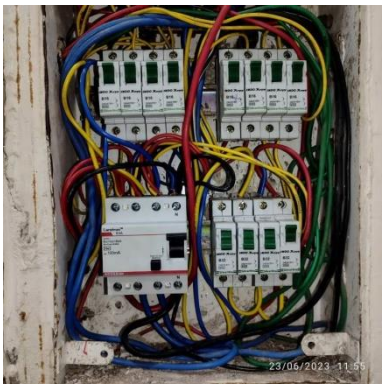
17	3rd Floor Room No-304 Electrical DB Computer lab 3		1. Proper tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Dust is observed in electric DB.	2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			3. Lugs are not observed on wire terminal of MCB.	3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
18	3rd Floor Room No-305 Electrical DB Computer lab 2		1. Proper tagging is not observed on all MCB for identification. 2. Dust is observed in electric DB. 3. Lugs are not observed on wire terminal of MCB.	1. It is recommended to affix tag on MCB for identification. 2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval. 3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly

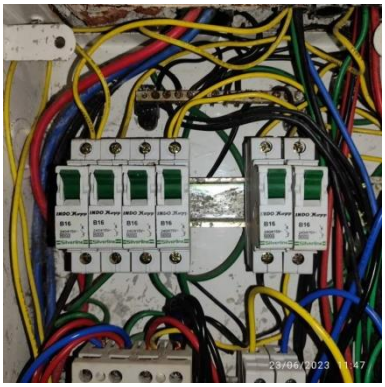
			4. Multiple neutral wires are connected at RCCB neutral terminal.	as per NEC 2023. 4. It is recommended to connect circuit neutral wire at neutral link in DB.
19	3rd Floor Room No-306 Electrical DB Computer lab 1	 	1. Proper tagging is not observed on all MCB for identification. 2. Lugs are not observed on wire terminal of MCB. 3. Earth link screw are found rusted.	1. It is recommended to affix tag on MCB for identification. 2. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023. 3. It is recommended to clean earth link terminal with properly and make connection at earth link terminal.
20	3rd Floor Room No-313 Electrical DB		1. Proper tagging is not observed on all MCB for identification. 2. Lugs are not observed on wire terminal of MCB.	1. It is recommended to affix tag on MCB for identification. 2. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.

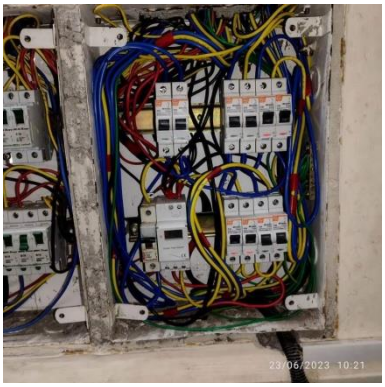
			3. Multiple wires are connected at RCCB outgoing and incoming terminal.	3. It is recommended to connect one wire at RCCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.
			4. Neutral link screw are found rusted.	4. It is recommended to clean neutral link terminal with properly and make connection at neutral link terminal.
21	3rd Floor Kitchen Electrical DB		1. Proper tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Dust is observed in electric DB.	2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			3. Lugs are not observed on wire terminal of MCB.	3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.

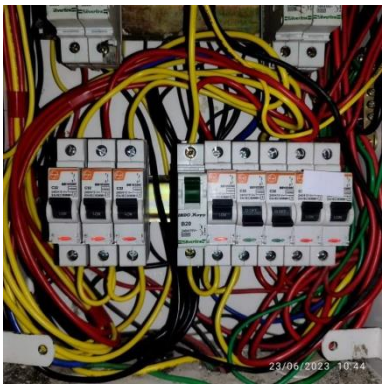
22	4th Floor Room No-401 Electrical DB		1. Lugs are not observed on wire terminal of RCCB and MCB.	1. It is recommended to install rated size of pin type cu lugs on all wires and make all termination tight properly as per NEC 2023
23	4th Floor Room No-413 Electrical DB	  	1. Lugs are not observed on wire terminal of RCCB and MCB. 2. Dust is observed in electric DB. 3. Multiple wires are connected at SP MCB outgoing terminal.	1. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023. 2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval. 3. It is recommended to connect one wire at SP MCB to avoid overloading, loose connection and unwanted tripping on respective circuit.

24	4th Floor Room No-412 Electrical DB		1. Tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Dust is observed in electric DB.	2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			3. Lugs are not observed on wire terminal of MCB.	3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
25	5th Floor Room No-512 Electrical DB		1. Proper tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.

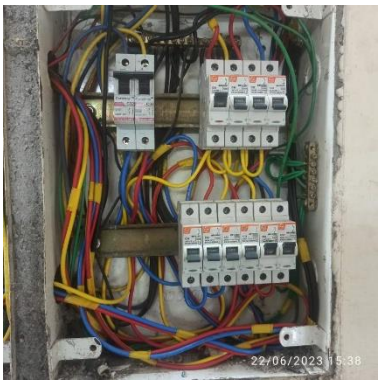
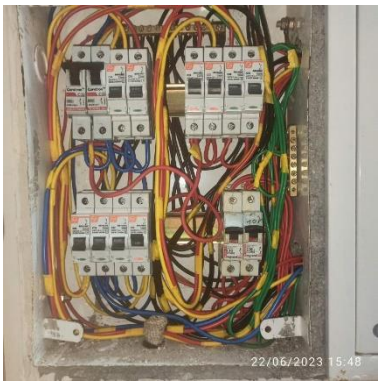
			2. Looping is observed on SP MCB.	2. Looping are need to be removed and connect rated size of copper shorting link at SP MCB incomer.
			3. Dust is observed in electric DB.	3. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			4. Multiple wires are connected at RCCB outgoing terminal.	4. It is recommended to connect one wire at RCCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.
26	5th Floor Room No-513 Electrical DB		1. Proper tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.

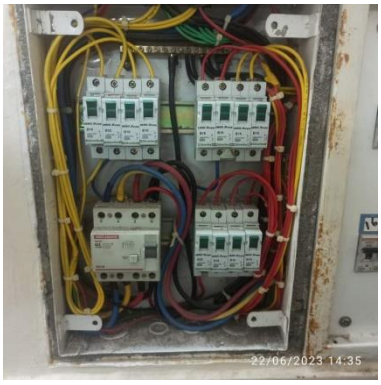
			2. Multiple wires are connected at RCCB outgoing terminal.	2. It is recommended to connect one wire at RCCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.
			3. Dust is observed in electric DB. 4. Lugs are not observed on wire terminal of MCB.	3. Proper preventive maintenance is need to be carried out in electrical DB at regular interval. 4. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
27	6th Floor Room No-612 Electrical DB		1. Tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Dust is observed in electric DB. 3. Multiple wires are connected at RCCB outgoing terminal.	2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval. 3. It is recommended to connect one wire at MCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.

			4. Lugs are not observed on wire terminal of MCB.	4. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
			5. Looping is observed on SP MCB.	5. Looping are need to be removed and connect rated size of copper shorting link at SP MCB incomer
28	6th Floor Room No-613 Electrical DB		1. Tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Dust is observed in electric DB.	2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			3. Lugs are not observed on wire terminal of MCB.	3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.

			4. Looping is observed on SP MCB.	4. Looping are need to be removed and connect rated size of copper shorting link at SP MCB incomer
			5. Multiple wires are connected at RCCB outgoing terminal.	5. It is recommended to connect one wire at RCCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.
29	6^{th}, 7^{th} and 8^{th} Floor Electric Shaft		1. MCCB enclosure are not enclosed properly from upper and lower side.	1. It is recommended to enclosed MCCB properly.
			2. Protective earth conductor is Not connected to MCCB enclosure.	2. It is recommended to provide and install 16sqmm size protective earth conductor to MCCB enclosure Body as Per IS3043.
			3. Tagging on all cables and on main incomer for identification is not available.	3. It is recommended to affix tag on cable for identification purpose along with directional arrows and its size on all cable as per NEC 2023.

			4. Insulation Rubber mat is not available in front of MCCB.	4. It is recommended to place Insulation Rubber mat having IS 15652:2006 standard in front of electrical panel as per CEA Regulation19 (5).
30	7th Floor Electric Shaft		1. Protective earth conductor is not connected properly at earth strip.	1. Protective earth conductor of rated size is need to be connect properly at earth strip as per IS3043.
31	7th Floor Room No-713 Electrical DB	 	1. Tagging is not observed on all MCB for identification. 2. Dust is observed in electric DB. 3. Lugs are not observed on wire terminal of MCB. 4. Multiple wires are connected at RCCB outgoing terminal.	1. It is recommended to affix tag on MCB for identification. 2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval. 3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023. 4. It is recommended to connect one wire at RCCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.

			5. Looping is observed on SP MCB.	5. Looping are need to be removed and connect rated size of copper shorting link at SP MCB incomer
32	7th Floor Room No-712 Electrical DB		1. Tagging is not observed on all MCB for identification.	1. It is recommended to affix tag on MCB for identification.
			2. Dust is observed in electric DB.	2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval.
			3. Lugs are not observed on wire terminal of MCB.	3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
			4. Multiple wires are connected at RCCB outgoing terminal.	4. It is recommended to connect one wire at RCCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.
			5. Looping is observed on SP MCB.	5. Looping are need to be removed and connect rated size of copper shorting link at SP MCB incomer

33	8th Floor Room No-813 Electrical DB	 	1. Tagging is not observed on all MCB for identification. 2. Dust is observed in electric DB. 3. Lugs are not observed on wire terminal of MCB.	1. It is recommended to affix tag on MCB for identification. 2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval. 3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023.
34	8th Floor Room No-812 Electrical DB	 	1. Tagging is not observed on all MCB for identification. 2. Dust is observed in electric DB. 3. Lugs are not observed on wire terminal of MCB. 4. Multiple wires are connected at RCCB outgoing terminal.	1. It is recommended to affix tag on MCB for identification. 2. Proper preventive maintenance is need to be carried out in electrical DB at regular interval. 3. It is recommended to install rated size of pin type cu lugs on all circuit wiring and make all termination tight properly as per NEC 2023. 4. It is recommended to connect one wire at RCCB terminal to avoid overloading, loose connection and unwanted tripping on respective circuit.

			5. Looping is observed on SP MCB.	5. Looping are need to be removed and connect rated size of copper shorting link at SP MCB incomer
35	Lift room		1. Insulation Rubber mat is not available in front of electrical installations.	1. It is recommended to place Insulation Rubber mat having IS 15652:2006 standard in front of electrical panel as per CEA Regulation19 (5).
			2. Proper Tagging on all SFU switch/Cable is not provided for identification.	2. It is recommended to affix tag on SFU/Cable for identification purpose along with directional arrows and its size on all cable as per NEC 2023.
			3. Display of Instructions chart for resuscitation of persons suffering from electric shock is not affix in electrical meter room. 4. Danger Notice is not affixed on electrical panel and DB.	3. It is recommended to affix display of Instructions for resuscitation of persons suffering from electric shock in a “conspicuous place” as per CEA Regulation 28. 4. It is recommended to affix Danger notice in a conspicuous position in Hindi or English and local language of the district with sign of skull and bones of a design having IS2551 as per CEA Regulation 18.

			5. Electrical Single line diagram of electrical installation is not available near electrical panel/DB. 6. Unwanted Material is Observed in lift room.	5. It is recommended to prepare and affix Electrical Single Line Diagram near electrical installation as per NEC 2023. 6. It is recommended to Remove unwanted material immediately from lift room.
36	Electrical meter room		1. Main LT cables are laid on floor in Electrical meter room haphazardly and there is no any proper platform in electrical meters/ switchgear to perform any electrical operation and maintenance activity in easy or convenient way. Also supplier's earth is also provided in same meter room without any chamber cover.	1. It is recommended to make proper platform in Electrical meter room, so electrician can do their electrical maintenance activity with safety.
37	Terrace area		1. Lightening Arrestor is not available on terrace area as per NEC 2023. 2. Surge Protection Device is not observed in Electrical installation to provide protection against lightning strike or voltage surge as per NEC 2023/ IS 732.	1. It is recommended to provide Lightening Arrestor on terrace for providing protection against lightning strike. Provide proper equipotential bonding arrangement as per IS 732, NEC 2023, IS 3043. 2. It is recommended to provide rated size of Surge Protection Device (SPD) in each Electricity meter distribution side as per code of practice strictly to perform its operation as per IS 732, NEC2023.
38	All Electrical Installation PPM activity		1. It is observed that there is no designated competent person for operation and maintenance of electrical installation.	1. It is recommended to designate **competent** person for the purpose to operate and carry out the work on electrical line and apparatus as per regulation

				3 of CEA. Competent Person shall hold certificate of competency issued by appropriate government. His name shall be there in register of contractor.
			2. It is observed that Total Connected load of all floors of school is **550 KW which is more than 250 KW.** 1st floor meter- 58 KW 2nd floor meter-47 KW 3rd floor meter-113 KW 4th floor meter-60 KW 5th floor meter- 58KW TATA power meter-214 kW	It is recommended to designate Electrical Engineer for site as load is above 250KW as per regulation 5 of CEA regulation 2010.

INSPECTION REPORT

This is to certify that **M/s. ETCOM ENGINEERING SERVICES** has successfully conducted **ELECTRICAL SAFETY INSPECTION** at premises of **NIRMALA MEMORIAL FOUNDATION, KANDIVALI on 22-06-2023.**

Below tests had been carried out and observation with recommendation given for improving electrical system healthiness.

Sr No	TEST	RESULT
1	Form II as per CEA 2010	Recommendation given for improvement
2	Insulation Resistance Test	Found OK
3	Earth Electrode Resistance Test	Found OK
4	Load Measurement Study	Recommendation given for improvement
5	ELCB / RCCB Test Report	Recommendation given for improvement
6	Infrared Thermography Report	Recommendation given for improvement
7	MCB and Wiring details	Recommendation given for improvement
8	Total Connected Load List	Found OK
9	General Electrical Safety Observation and Recommendation	Recommendation given for improvement

ETCOM ENGINEERING SERVICES PALGHAR

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