

ENERGY & SAFETY AUDIT REPORT

JUNE – 2021

D.Y.Patil College of Hotel
Management and Their Boys Hostel,
Kolhapur.



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Summery

Hotel Management Building				Boys Hostel
16	Ground Floor	1240 W	1.240 KW	450 W
17	First Floor	1350 W	1.350 KW	1160 W
18	Second Floor	3425 W	3.425 KW	1160 W
19	Third Floor	3189 W	3.189 KW	1160 W
20	Fourth Floor	25335 W	25.335 KW	1295 W
	Total	35177 W	35.177 KW	5225 W



Ajinkyatara Building Campus.

Details of the energy meter are as mentioned below:

Type of Supply	LT- 11KV	Billing Unit	4019
Category	Residential – 1Ph	Meter Number	053-06762394
Sanctioned Load	2.6 KW	Connected Load	2.6 KW
Tariff	090/LT-1(B)	Meter Number	01531608178
Supply At	LT	Urban / Rural	Urban

Distribution Transformer Details:

Manufacturer: Not Known.(This is a common distribution Transformer)

Rated KVA: 63 / or 100 / or 200 KVA.

SYSTEM DETAILS: Distribution Boxes are meant for control and protection of

Distribution Transformers with relevant parameters as under:-

S.N.	Particulars	Details
1.	KVA rating	63 KVA/ 100 KVA /200 KVA
2.	Voltage	433 V, 3 Ph, (3x 250 V)
3.	Frequency	50 HZ
4.	Phases	3 phase, solidly grounded neutral
5.	Approximate full load current of transformer	84 A / 133 A / 270 A
6.	No. of Outgoing circuits	2 no.s 3 no.s

Month	Amount	Units
Sept-2021	3350	339
Aug-2021	4810	466
July-2021	1340	22
June-2021	250	1
May-2021	100	20
April-2021	112	700
Mar-2021	86	850
Unit Cost	Rs.4.19/-	
Total	10048	2398
Average	1435	342



2)

DG Set:

Manufacturer	Mahindra Powerol.
KVA	20
KW	16
Volts	415, 3 Phase, 50Hz
Amps	27.8 A
RPM	1500
Power Factor	0.8

- i) Earthing pits are not proper. (may be) Damaged while fitting paver blocks
- ii) No proper space for maintenance work, as the gen set is surrounded by scrap glass doors, scrap tyres, old oil filters, tiles, scrapped chair etc.

Pump House:

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Electric Motor	750 W	1	750	
Total			750 W	

- i) Panel doors are absent, panels are open
- ii) Water seepage is there, walls are moist internally. Electric panels are fitted on the moist walls. This is risky.
- iii) Found no electrical point in the pump hose. It may be difficult for maintenance person to perform repair works at any time of the day.
- iv) scrap material like old pump, battery is dumped in the pump house.

Ground Floor:

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	45 (W)	2	90	
Light fitting	6 W	9	54	
LED fitting	36 W	3	108	
Water cooler	100 W	1	100	
Total			352 W	



Toilet

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	55 (W)	1	55	
Tube light	45 (W)	1	45	
Total			100 W	

Stair case lights

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Light fitting	6 W	6	36	
LED Bulb	10 W	1	10	
Total			46 W	

First Floor:

Passage and Toilet:

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	3	60	
Tube light	45 (W)	1	45	Ladies
Tube light	45 (W)	1	45	Gents
Total			150 W	

Classroom 1

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	4	80	
Ceiling Fan	80 (W)	4	320	
Total			400 W	

Classroom 2

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	4	80	
Ceiling Fan	80 (W)	4	320	
Total			400 W	



Classroom 3

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	4	80	
Ceiling Fan	80 (W)	4	320	
Total			400 W	

Second Floor:

Passage and Toilet

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	3	60	
Water Cooler	100 W	1	100	
Tube light	20 (W)	1	20	Ladies
Tube light	20 (W)	1	20	Gents
Total			200 W	

Room 202

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	2	40	
Ceiling Fan	80 (W)	1	80	
CPU +Display	175 W	1	175	
Printer	700 W	1	700	
Total			995 W	

Principal Cabin (Room 201)

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	2	40	
Ceiling Fan	80 (W)	1	80	
CPU +Display	175 W	1	175	
Total			295 W	



Front Office:

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	4	80	
Ceiling Fan	80 (W)	4	320	
Total			400 W	

Room 204

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	3	60	
Ceiling Fan	80 (W)	3	240	
Total			300 W	

Library 205

Library (205)

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	2	40	
Ceiling Fan	80 (W)	2	160	
Total			200 W	

Computer Lab:

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	2	40	
Ceiling Fan	80 (W)	2	160	
CPU +Display	175 W	12	2100	
Total			995 W	

Toilet:

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	1	20	Ladies
Tube light	20(W)	1	20	Gents
Total			40 W	



Third Floor

Room 301

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	1	20	
Ceiling Fan	80 (W)	2	160	
Lamp fitting	15 W	6	90	
Bed lamps	25 W	2	50	
Electric Kettle	1000 W	1	1000	
Total			1320 W	

Room 302

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Bulb	1 W	2	2	
Ceiling Fan	80 (W)	2	160	
Lamp fitting	15 W	6	90	
Lamp fitting	6 W	2	12	
Total			264 W	

Room 303

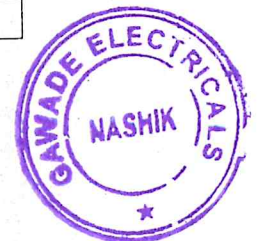
Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	3	60	
Ceiling Fan	80 (W)	3	240	
Total			300 W	

Room 304

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	5	100	
Ceiling Fan	80 (W)	4	320	
Projector	700 W	1	700	
CPU +Display	175 W	1	175	
Total			1295 W	

Toilet:

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	1	20	Ladies Toilet
Tube light	20(W)	1	20	Gents Toilet
Total			40 W	



Fourth Floor

Passage and Toilet

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	3	60	Passage
Tube light	20(W)	1	20	Ladies Toilet
Ceiling Fan	80 (W)	1	80	Gents Toilet
Total			160 W	

Room 403

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	6	120	
Exhaust Fan	30 (W)	1	30	
Deep Freezer	260 W	1	260	
Electric Food oven	20,000 W	1	20000	
Electric Grinder	1250 W	1	1250	
Total			21660 W	

Kitchen

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	8	160	
Exhaust Fan	50 (W)	3	150	
Mixer	500 W	1	500	
Weighing scale	15 W	1	15	
Fridge	150 W	1	150	
Instant Water Heater	2500 W	1	2500	
Total			3475 W	

Toilet

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	1	20	Ladies Toilet
Tube light	20(W)	1	20	Gents Toilet
Total			40 W	



AJINKYATARA BOYS HOSTEL

Poarch

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Tube light	20(W)	10	200	
Wall Fan	50 (W)	1	50	
Total			250 W	

Ground Floor and Washroom

Electrical Load	Wattage	Numbers	Total (Watts)	Remark
Fan	80 W	1	80	
Light fitting	6 W	4	24	
Light fitting	6 W	2	12	Washroom
Exhaust Fan	30 W	1	30	
Total			200 W	

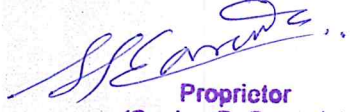
Floor wise different tube load and fan load

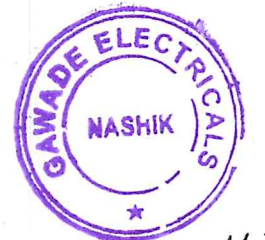
Floor No.	TL 55 W	TL 20W	TL 10W	Fan 80W	Total Load
First	8	2	4	8	1160 W
Second	8	2	4	8	1160 W
Third	8	2	4	8	1160 W
Fourth	9	2	4	9	1295 W
Total					4775 W

Total = 9550W

Total load on Ajinkyatara Boys Hostel
= 5225W

For Gawade Electricals


Proprietor
(Sanjay P. Gawade)



Gawade Electricals

Sanjay P. Gawade
Certified Energy Auditor
(EA-4875) Mobile No. 9890837038

Date: 22 / 06 /2021

Safety Audit of Ajinkyatara Building.

Branch Code and Name	D. Y. Patil College of Hotel Management
Address	2116, Tarabai Park, Kolhapur
Sanctioned Load	2.60 KW
Connected Load	2.60 KW
Monthly amount of energy bill	Rs. 1435/-
Total Tonnage of air conditioners in branch	7 Ton
Area of the Branch	10,000 Square Feet (Approx.)

Sr. No	Description	Details	Remark
1)	Whether MCCBs/MCBs/ELCBs are provided with proper ratings to cover the load ?	Yes	
2)	Whether light and emergency light are provided in electrical rooms, operating areas for easy operation and maintenance work ?	Yes	
3)	Whether Pump room, DG set room, UPS room, electrical room etc. are maintained dry and in good condition and obsolete / Hazardous / old items Are not dumped there ?	No	1)panels are open 2) No electrical point 3) Scrap pump, old battery is dumped there. (See photo)
4)	Whether water seepage is observed near any of the electrical panel, distribution boards, electrical equipments etc.?	Yes	Water seepage is observed. Electrical switchboard is fitted over wet wall, it is risky.
5)	Whether Earthing pits are provided and connected	No	Found no earthing pits.

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	To the equipment body of the connected equipment?		
6)	Whether earthing pits are properly maintained ?	Yes/No	Once earthing pits are created, to improve the quality of earthing pit pour a bucketful water +10 kg salt regularly once in a month time in earth pit.
7)	Whether proper exhaust fans for proper ventilation of panel room /electrical room/UPS room is provided and paper, old material /any other scrap kept near DB/Panels/UPS Batteries etc are not kept there.	No	
8)	Whether penalty is being imposed in electricity bills on account of higher load / poor power factor etc. (check electricity bills of April, May, June, July month) Additional electrical load required if any from power distribution company.	No	
9)	Whether the load is distributed in all three phases equally ? to avoid unbalancing of phases and no loose connections / Hazardous wirings observed in the branch/ office premises	Yes	
10)	Whether isolating switches are provided for switching off then on essential loads premises during night and main switch to switch off the power supply to the branch in case of emergency ?	Yes	
11)	Whether electrical equipments of	No	All the kitchen & pantry

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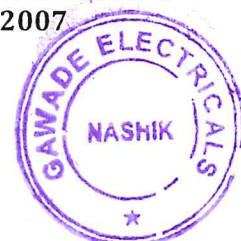
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	pantry etc. are properly connected to Iron Socket box with MCBs. MCBs or latest type of switches are provided to switch On / off the ACs and protect them from overload.		equipments are fitted in ordinary switch sockets instead of MCB based switch sockets.
12)	Whether proper preventive maintenance after opening of panel boards and the distribution boards are carried out by license holder electrician or skilled technicians of equipment manufacturers / service providers ?	Yes	
13)	Whether appropriate timers used in the change-over of air conditioners for server room A/Cs and for signage boards to make auto on /off. The thermostat of A/C at server room should be set to say 30 ⁰ C, so they are not run only when temperature is too high (To minimize the chances of fire due to idle running of the ACs during night)	No	No server room
14)	Whether preventive maintenance of electric installation and equipment is carried out by skilled licensed holder electricians / skilled technicians.	Yes	
15)	General conditions of electrical panels, main switch, electric motor board and change over switch, A/Cs, water cooler, water filter, wiring cables etc. is good and all DBs, panels, switch boards are properly covered		General conditions of electrical panels, main switch, electric motor board and change over switch, A/Cs, water cooler, water filter, wiring cables etc. is good, but panels in the pump house are not covered properly.

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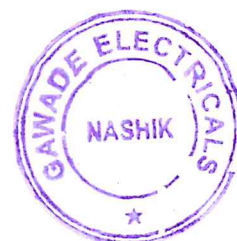
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16)	Whether the contact numbers of persons, electricians, power distribution company, Generator service provider, vendor, UPS Vendor, A/C service provider are available with Accountant / Security guard and other staff and they are displayed in Electric room / UPS room ?	NO.	It should be displayed properly.
17)	Whether the power factor correcting panel of appropriate rating is installed? (APFC Panel)		
18)	Fire Prevention Measures.		
i)	All old disposable records, broken furniture etc. accumulated at the premises have been cleared?	YES	
ii)	Combustible leaf, litter / waste papers etc. in and around the branch is covered / cleaned periodically	YES	
iii)	No stationary / Records / old obsolete items are stored / kept in the system / UPS room.	YES	
iv)	Storage racks in stationary / record room kept at a safe distance of at least 3 ft. from electrical points / switch / junction box?	YES	
v)	In the pantry / canteen LPG gas is used?	YES	
19)	Server and UPS room.		
i)	Server room have dual AC Units having timer circuit device with independent circuit		
ii)	Whether exhaust fan installed in UPS room?		
20)	Electrical safety		

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i)	Power supply to record / stationary room is made through Plug and Socket arrangement?	NA	
21)	Fire protection and Fire Control Extinguishers and Fire Alarm System		
	Are fire extinguishers available in the following work area and clearly marked and accessible? A) System and UPS room (CO2-3/4 Kg x 2No) B) Accounts Hall: Water CO2 type C) Stationary Room: Water CO2 type	A)No B)Yes C) No	One fire extinguisher ABC type shall be provided on each floor.
22)	DG Set / Generator		
	At least two 6 Kg ABC capacity fire extinguishers are placed near the DG set	No	Two fire extinguishers shall be provided.

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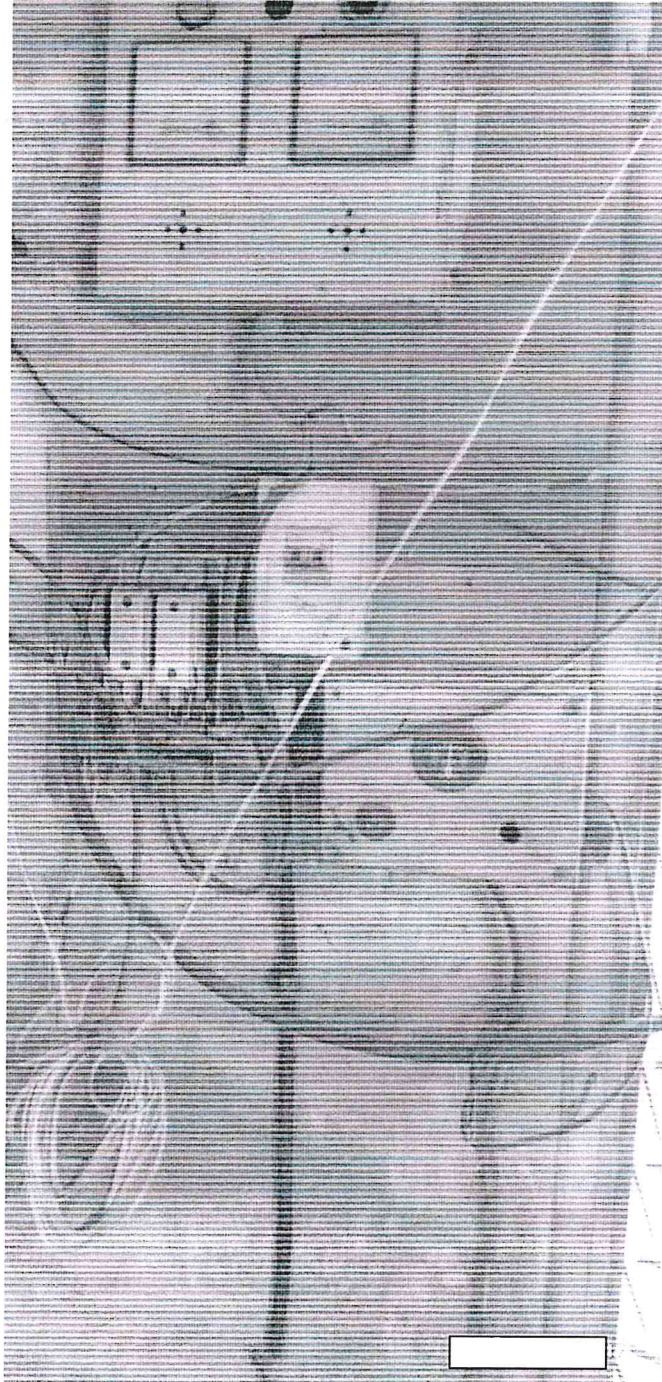
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