
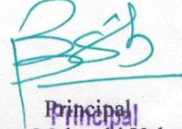


Govt. Maharshi Valmiki Post Graduate College  
Bhanupratappur  
Dist – U.B. Kanker (C.G.)

Energy Audit Report  
Session : 2020-21



हायक अभयता (सं/सं), उप-सभाग,  
छ.रा.वि.वि.कं.मर्या. भानुप्रतापपुर.



Principal  
Govt. Maharshi Valmiki  
PG College Bhanupratappur  
Dist- Kanker (C.G.)

The following image shows the contract demand load of the office building:



### Figure – Contract Defined

As it can be observed that the contract demand load of the building is 10 Kw.

### Connected Load

It is defined as the sum of ratings of all electrical that are connected at the supply point regardless of their status of operation. It depends on the installed Government Maharshi Valmiki P.G. College, Bhanupratappur, has different types of load in the building.

Office building loads are majorly divided in different category:

1. Lightning load
2. Cooling load
3. Evaporative Coolers & Fans Load
4. Equipment's Load (computer Printer, Photo Copy Machine, Water purifier, etc.)

Total Connected Load Breakup			
S. No.	Systems/Area	Load in (kW)	Load in Percentage (%)
	Lightning	4.4	24
	Fans and cooler	8.9	48
	Computer/Printer	1.9	10
	Inviter	3.3	18
Total Connected Load Breakup		<b>18.5 kw</b>	

### Lighting and Controls

The facility is college building. This building includes office area, Class room and Lab space Lighting Load is contributing near about 18% of total connected load. The facility has following type of fixtures installed in the buildings:

### Lighting fixture load segregation

S. No.	fixture description	serving area	Quantity Watt/fixture	Total Wattage
1	Tube light (40W)	interior	<b>88X40</b>	<b>3520</b>
2	LED (9W)	interior	<b>22X20</b>	<b>440</b>

Table - Lighting Summary

### PHOTO (SWITCH BOARD)

S. No	Space	Total Lighting Wattage (W) %	Contraction
1	Building Interior	4212	94
2	Building Exterior	276	6
Total Lighting Wattage (kW)		4.4	

## **Building Envelope**

**Govt. Maharshi Valmiki P.G. College, Bhanupratappur**

### **Window Area**

### **Roof Area**

The building roof construction is made of 5 inc. concrete Slab. A roof is part of building envelop. All roofs are not covered by solar photovoltaic, or any renewable energy system, or utilities and services that render it unsuitable for the purpose and shall be either cool roofs or vegetated roof.

## **Coolers, Ceiling & Exhaust Fan's**

### **Evaporative Coolers, Ceiling & Exhaust Fan's**

A ceiling fan is a mechanical fan, usually electrically powered, suspended from the Government Maharshi Valmiki P.G. College, Bhanupratappur building there are **total numbers** of ceiling mounted fan. Some Evaporative Coolers are also installed in facility for meeting thermal comfort up to its best.

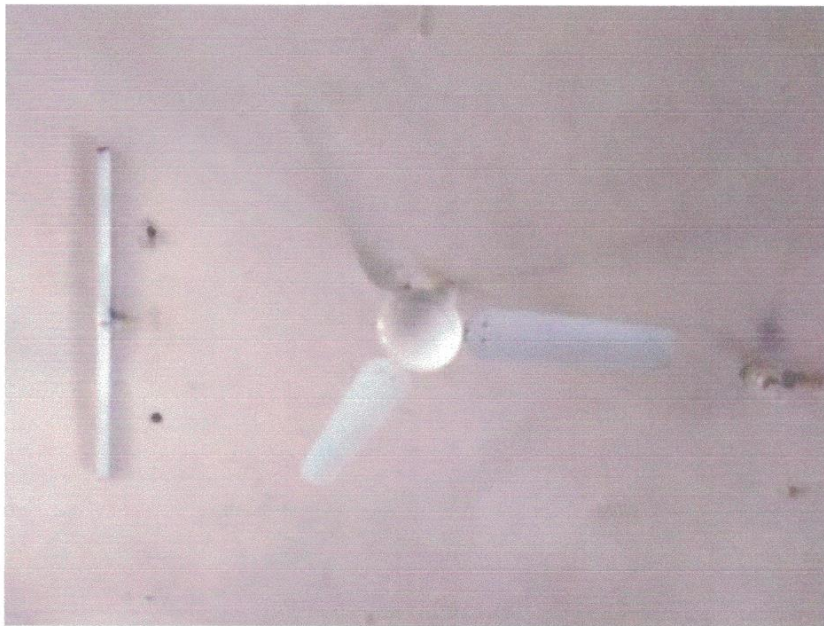


Figure shows ceiling fan and tube light facility installed in the college.

## **Electrical System & Renewable System**

Uninterrupted Power Supply

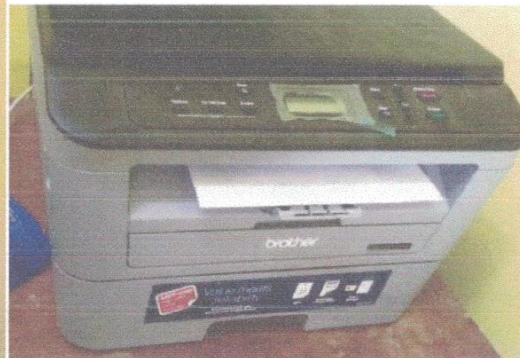
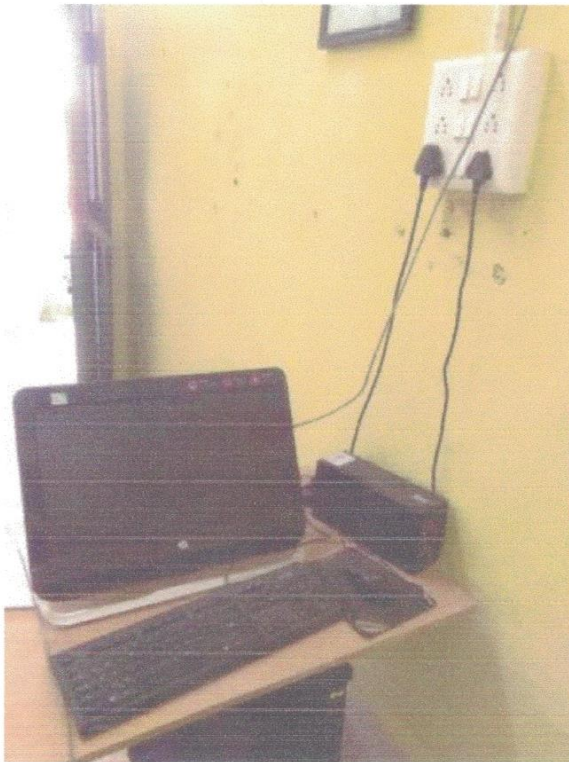
Equipment's Load



There are several equipments like computers, printers, photocopiers, etc. installed in facility. Computer/Printer contribution in total connected load is around 8% and other equipment's contributes around 36% of total connected load.



Figure shows battery installed for uninterrupted power supply.



Computer facility along with the printer.



Figure shows water purifier installed at the campus



Figure shows projector and smart board installed .






Smart classrom program.

S. No.	Description	Quantity	Wattage Total	Wattage
	Computer	4	150	600
	Printer	3	300	900
	TV	3	150	450
	Projector	4	100	400
	Water purifier	2	750	1500
	Refrigerator	2	30	260
Total load equipment's (kW)			4.110 kw	

Table – Equipment Load Segregation

S.No.	Description	Quantity Wattage	Total Wattag
1	Printer	3X300	900

S.No.	Description	Quantity Wattage	Total Wattag
1	Projector	4X100	400

  
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### **Transformer**


Building facility has 1 transformer used for supplying the electricity to the building. Rating capacity of the transformer is about 100 kW for power supply.





**Used of LED bulbs/Power efficient Equipment**

Department instrument	Fan	Led	Tube light	Fridge	Computer printer	Xerox machine	Scanner	Projector	
Principal office	2	2	3						
Zoology /physics lab	5	1	6	1					
Chemistry/ botany lab	6	1	6						
Computer room	2	1	4		2				
Office	5	2	5						
Staff room									
Library	15	5	14	1					
Sports	2		3						
H.o.d. Room	1	2	1		1				
Smart class room	17	2	11					3	
Class room	36	8	34						
Seminar hall	14	4	18						
NAAC room	5	4	3					1	
NSS room	2		3						
Total quantity	112	32	111	2	3			4	
Total watt.	8960	288	3980	260	900			400	

  
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