GREEN (ENVIRONMENT) AUDIT REPORT

RAYAT SHIKSHAN SANSTHA'S

DR BABASHAEB AMBEDKAR MAHAVIDYALAYA

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Conducted and Submitted by

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ENERFUTURE

CERTIFICATE

ENERFUTURE TECHNOLOGY PRIVATE LIMITED

Verified and Certified that

Rayat Shikshan Sansatha's

Dr. Babasaheb Ambedkar Mahavidyalaya

85, Sarkar Wada, Ward No. 8, Aundh Gaon, Pune – 411067

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has carried out

Green & Environment Audit

as per guidelines laid down in the
Indian Standards and Codes
in 2021-22.

ENERFUTURE TECHNOLOGY PRIVATE LIMITED * PUNE

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ACKNOWLEDGEMENT AND CONCEPT

Enerfuture Technology thanks the management of Dr Babasaheb Ambedkar Mahavidyalaya College, Pune for assigning this important work of Green Audit of Dr Babasaheb Ambedkar Mahavidyalaya College, Pune

Green audit is defined as a formal examination of practices adopted and their effects on the environment, by an organization. It is also widely known as Environmental Audit.

The aim of the Green Audit is to review the overall environment management systems. Depending on the types of standards and the focus of the audit, there are different types of environmental audits.

Organizations now recognize the importance of environmental matters and accepts that their environment performance should be scrutinized to understand its impact and to take remedial measures to lessen it.

Environmental auditing is used to:

1. Investigate
2. Understand and
3. Identify

These are then used to help in improving existing human activities, with the aim of reducing the adverse effects of these activities on the environment.

An environment auditor studies an organization's environment effects in a systematic and documented manner and produces an environmental audit report.

Green audit for an educational institution mainly examines the following systems

1. Renewable/ green energy usage
2. Water management
3. Biodiversity
4. Health and safety management
5. Sanitation management
6. Adopted Green practices

Contribution of college's team is equally important in this venture. Team of technical experts from Enerfuture Technology Private Limited is grateful to all the following personnel of Dr Babasaheb Ambedkar Mahavidyalaya College, Pune for their kind cooperation, furnishing required data, analysis report and support offered during our visit.

Name	Designation
Dr. Arun Andhale	Principal
Dr Ramesh Randive	Vice-Principal
Dr Rajendra Rasakar	Assistant Professor
Prof Sushilkumar Gujar	Assistant Professor
Dr Savita Patil	IQAC Coordinator

We are also thankful to the other staff members who were actively involved while taking measurements and conducting field study.

STUDY TEAM

Sr No	Name	Qualification
1	Mr. Chetan Nemade	M.Tech (Energy Studies), Advance Diploma in Industrial Safety (ADIS), LLB(pursuing), BEE Certified Energy Manager
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5	Mr Swapnil bedre	BE Mechanical

LIST OF INSTRUMENTS USED

1. Lux meter (Meco)
2. TDS meter
3. CO2 meter
4. Air quality measure meter
5. Sound dB meter

CONTENTS

EXCECUTIVE SUMMARY

Sr No	Location	Area	Objective/Purpose	Recommendation/Status
1	College building	Solar Photovoltaic System- 5kWp	To generate electrical energy by renewable sources and reduce the CO2 emissions	**Implemented**
2	Girl's hostel building	Solar Photovoltaic System- 15kWp	To generate electrical energy by renewable sources and reduce the CO2 emissions	**Implemented**
3	College campus	Composting	Reduces the landfill pollution and green-house gases reduction. Also produce bio-fertiliser compost to trees in the college campus	**Implemented**
4	All buildings of college	Tap water reducers	To save the water	**Can be implement**
		Hands free water tap system	This saves the water and also good for personal health protection to avoid frequent hand touching to water taps.	**Can be implement**
5	College buildings	Rain water harvesting	Save water. Increases the groundwater recharge.	**Implemented**

6	College buildings/campus	Air Comfort/ Quality	Air quality for human being comfort	**Aspirational**
7	College buildings/campus	Sound Comfort/ Quality	Sound quality or comfort for human being comfort	**Within permissible limits**
8	College buildings/campus	Daylight Comfort/Illumination	Daylight illumination for human being comfort	**Within permissible limits**
9	College buildings/campus	Health and Safety Management	Electrical safety- electrical wiring, connections etc	**Need to be improve**
			Electrical safety- unwanted materials are placed in electrical panel rooms	**Need to be remove**
			Fire safety- number of fire extinguishers are placed in college campus	**Good**
			Fire safety- Regularly maintenance of fire extinguishers.	**Good**
			Unwanted material placed in college campus	**Need to place properly**
10	College buildings/campus	No vehicle day	Save the conventional fuel and reduces the CO_2 emissions.	**Implement on each 1t of every week**
11	College buildings/campus	Waste management- E-waste	Reduce the CO_2 emissions by recycling of solid waste. Also Save environment from hazardous materials.	**Implemented by signing MOU with E-waste management company and doing regular drives**

12	College buildings/campus	Waste management- Solid waste	Reduce the CO2 emissions by recycling of solid waste	**Regularly implemented and maintained every month.**
15	College buildings/campus	Tree plantation/ Green belt cover	To increase the forest cover. Reduce the Air, Noise pollution, reduce CO2 emissions etc	**Regularly implemented every year**
16	College buildings/campus	Cleanliness drive and awareness campaign or poster competitions etc	Swatch Bharat Mission (SBM), Swatch Bharat Abhiyan (SBA), or Clean India Mission etc initiative by college	**Regularly conducted by college**
17	College buildings/campus	Plastic free campaign	Save environment from non-recycling and hazardous materials.	**Taken regular drive n subject**
18	College buildings/campus	Energy efficient or Innovative techniques	LED lightings, Motion sensor lightings, VRV system for cooling purpose, directions of windows etc	**Good initiative**

COLLEGE INTRODUCTION

INTRODUCTION

Rayat Shikshan Sanstha Satara

"Education through self-help is our motto."

This college is a grant-in-aid institution affiliated to Savitribai Phule Pune University. It has been established in 1983 and included under sections 2(f) and 12(B) of the UGC Act and has been receiving grants regularly. College is re-accredited with B++ Grade with CGPA of 2.76 by NAAC in 2017. The college offers courses like B.A., B.Com, B.B.A.(Computer Application) , B. Voc.(Retail Marketing and Management) M.A. Economics, M.A. Marathi and M. Com. Along with academic programs college also offers two COC and twenty seven skill and job oriented courses. The college has received several grants for Major and Minor Research projects from UGC and Savitribai Phule Pune University. The College also pays equal attention to faculty improvement and research. College has well qualified and research oriented faculty out of 13 permanent faculty, eight are with Ph.D. and two with M.Phil. and three are doing Ph.D. Almost all faculty members have completed major or minor research projects. College has organized 27 seminars and conference and 47 workshops. Several support services are provided to the students like ladies hostel, NSS, sports, YCMOU, cultural unit etc. Several support services are provided to the students like ladies hostel, NSS, sports, YCMOU, cultural unit etc. The college also publishes its annual magazine ‘Aksharkumaya’, wall paper ‘Aksharrang’, hand written ‘Vanijyavishwa’ and ‘Arthwishwa’, book reviews and Newsletters. Majority of the students are from rural and slum area. They belong to economically and socially backward classes. To cop up with the new atmosphere, we organize orientation remedial, special guidance scheme, bridge courses, counselling and computer courses for students. College was

awarded with Karmveer Paritoshik by Rayat Shikshan Sanstha, Jagnnath Rathi award for extension activities by Savitribai Phule Pune University, Savitribai Phule Best Sanstha by Rashtriya Bandhuta Parishad.

SILENT FEATURES OF THE COLLEGE

- A Branch of Rayat Shikshan Sanstha which was founded by a great visionary Padmabhushan Dr. Karmveer Bhaurao Patil.
- Affiliated to Savitribai Phule Pune University,Pune.
- Accredited by NAAC with 'B++' Grade with CGPA of 2.76 by NAAC in 2017.
- Best college Award by Rayat Shikshan Sanstha.
- NSS Best College Unit Award by SPPU.
- Jaggnath Rathi Award for social awareness by Savitribai Phule Pune University, Pune.
- Adequate infrastructure with specious classroom.
- Language Laboratory.
- Commerce Laboratory.
- Computer Laboratory.
- Adequate IT infrastructure.
- Well qualified and dedicated teaching faculty.
- Twenty-seven skill and job-oriented courses.
- Excellent organization seminars and workshops.
- Competitive Examination Guidance Centre.
- Banking Examination guidance Centre.
- Police Pre-recruitment Training Centre.
- Ladies hostel facility.
- Automated Library with library website and Institutional Repository for e-collection.
- National players.
- Good Research culture.

MISSION

We are committed to educate educationally, socially and economically backward people and bring about a positive change among them and thereby serve the nation.

VISSION

To impart quality education too socially, economically and educationally downtrodden through self-help and bring them in the main stream of the nation.

OBJECTIVES

- To generate physically, spiritually and academically sound, young, properly motivated graduates who know the importance of social and civil responsibilities.
- To develop the overall personality of students.
- Education through self-help and dignity of labour
- To educate socially and economically backward students.
- To promote women education.
- To promote the research activities.
- To have interaction with the society through co-curricular activities to acquaint the basic needs and problems.

LOCATION


AIMS Rd
Mailing Rd
Shiv Mandir
The Singh Rolls
Maharashtra Bakery & General Stores
Dr. Babasaheb Ambedkar College
Sanjay Auto
Tanvi Residency
PDCC Bank
Anandh Wakad Rd
Smitas Special Education
Maling Rd
AIMS Rd
Google

RENEWABLE ENERGY SYSTEMS

1. SOLAR PHOTOVOLTAIC SYSTEM- ELECTRICAL ENERGY GENERATION

OBSERVATION

1. In college premises, there are two Solar Photovoltaic Systems are installed for the purpose of kWh units generation
2. Total capacity of Solar Photovoltaic System is 15kWp and 5kWP respectively.
3. Current average energy consumption of the college is 1600 kWh per month.
4. College still has huge rooftop space available for Solar PV system to expand up to 14kWp

EXISTING SOLAR PV SYSTEM IN COLLEGE PREMISES

Solar Photovoltaic System- 15kWp

Solar Photovoltaic System- 5kWp

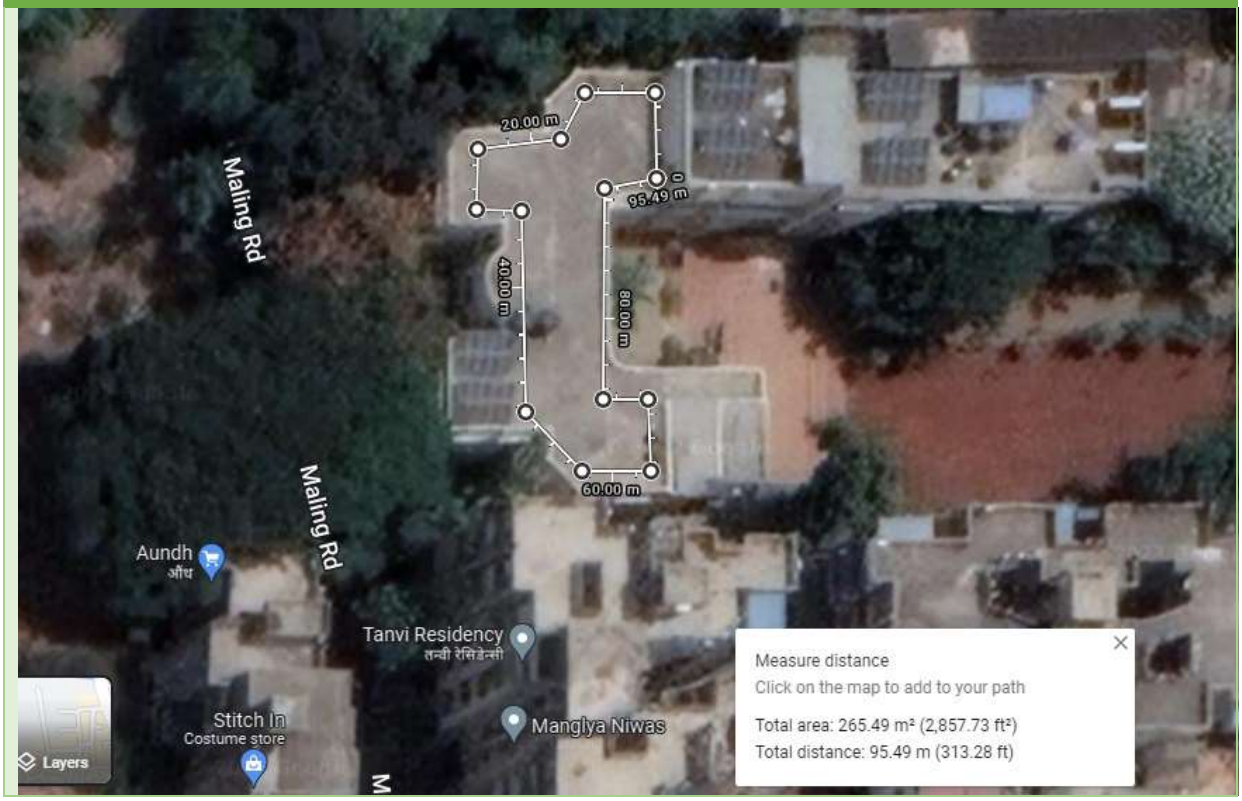

Existing Solar PV system		
Total capacity of Solar PV system	20	kWp
Units generation per month	2250	kWh/month
Units generation per year	27000	kWh/year
CO2 emission reduction/year	**22.95**	**tonnes of CO2e**

PROPOSED SOLAR PV SYSTEM IN COLLEGE PREMISES

College building

College building

Rooftop available



Savings due to Solar PV system additional		
Total Rooftop space available- approximate	2857	sqfoot
Average energy consumption of main college building	1600	kWh/month
Total capacity of Solar PV system can be installed	14	kWp
Total solar unit generation	1575	kWh/month
Average electricity unit rate	11.16	INR/kWh
Total cost of Solar PV system	630000	INR
Total saving	17577	INR/month
Payback period	35.84	months
Payback period	2.99	year
CO2 emission reduction/year	**16.07**	**tonnes of CO2e**

2. SOLAR WATER HEATING SYSTEM- HOT WATER GENERATION

OBSERVATION

1. In Girl's hostel, there is Solar Water Heating system is installed for the purpose of water heating instead of electric heaters.
2. Total capacity of Solar Water Heating system is 1000 litres/day.
3. Auxiliary heaters are not used in solar water heating system in the morning.

Solar Water Heating System- 1000 litres/day- Hostel

Solar water heater saving		
Particulars		
Hot water temperature	60	deg C
Cold water temperature	25	deg C
Temperature difference(delta T)	35	deg C
Volume of water	1000	lit
Volumetric flow	1000	lit/day
Hot water temperature	60	deg C
Enthalpy of cold water	25.04	kcal/kg
Enthalpy of Hot water	60	kcal/kg
Enthalpy difference	34.96	kcal/kg
Amount of heat used	34960	kcal
Power used for heating	40.65	kW
Monthly kWh	1239.86	kWh/month
Saving kWh	1239.86	kWh/month
Saving kWh	14878.33	kWh/year
Saving INR	15175.89	INR/month
CO2 emission reduction/year	**12.65**	**tonnes of CO2e**

WASTE MANAGEMENT SYSTEMS

1. COMPOSTING

OBSERVATION

1. In college premises there are number of trees are planted by college management.
2. College also maintain every tree in the premises.
3. There is substantial amount of waste of tree leaves, shrubs are generated in the college premises.
4. In existing college have compost pits to generate compost from these generated waste.

Number of Trees	Number of Trees
	
Number of trees in the college premises	**Number of trees in the college premises**

Number of Trees	Number of Trees
	
Number of trees in the college premises	Number of trees in the college premises

Compost pits	Compost pits
	
Compost pits in college premises	Compost pits in college premises

2. BIO-GAS GENERATION

OBSERVATION

1. In the college canteen approximately 10kg kitchen waste is generated daily.
2. Currently there is no any bio gas plant for generation of bio gas in the college.

RECOMMENDATION

1. It is recommended that installed the small capacity of bio gas plant at college canteen and girl's hostel for production of bio gas from kitchen waste generated daily.
2. Produced bio gas can be used for small purposes in the canteen instead of LPG which saves monthly approximate 1 cylinder of INR 1,500/-

SAVINGS MEASURES

SAVINGS DUE TO BIO GAS PLANT

Saving due to Bio gas plant		
Capacity of bio gas plant	10	kg/day
Waste generated	10	kg/day
Approximate bio gas generation	1	m3/day
Approximate bio gas generation	30	m3/month
Equivalent LPG gas saved	12	kg/month
Approximate LPG cylinder saved	1.0	nos
Cost saved	**1500.00**	**INR/month**

WATER QUALITY AND MANAGEMENT SYSTEMS

1. TDS LEVEL OF WATER

INTRODUCTION

The water we drink contains essential salts and minerals like calcium, potassium and magnesium, besides hydrogen and oxygen.

These minerals make up the acceptable levels of TDS (Total Dissolved Solids). Besides, these minerals, the source water contains heavy impurities like arsenic, antimony, lead, iron, etc. It also includes carbonates, fluorides, sulphides and other salts picked along the way. These contaminates enhance the TDS levels to unacceptable levels.

BIS (Bureau of Indian Standards) determines the TDS acceptability levels in drinking water. In India, drinking water can contain TDS up to 500 ppm. BIS has constituted the following table that could clarify the matters further.

TDS level (PPM)	Reasons for acceptability or non-acceptance	
less than 50	Unacceptable	The water with these TDS level does not contain the minerals required for healthy growth
50 - 150	Acceptable	Such TDS levels are usually due to minor industrial contamination
150 - 250	Acceptable	BIS considers water with this TDS levels as the healthiest of all because it is excellent for cardiovascular health
250 - 350	Acceptable	Many areas in India depends on groundwater or bore wells for their water requirements. This water contains essential minerals hence is in acceptance range
350 - 500	Fair	The maximum TDS levels acceptable for human consumption is 500
above 500 - 1200	Not Acceptable	BIS does not recommend ant TS level above 500 as fit for human consumption. However, water with TDS levels up to 1200 can be subjected to purification using Reverse Osmosis(RO) technology to eliminate TDS and bring it down to acceptable levels

OBSERVATION

1. Drinking water requirement of college is fulfil by PMC (Pune Municipal Corporation) water.
2. Domestic water requirement of college is fulfil by well in the college.
3. UV system is installed in the college for purification of well water.
4. TDS level of drinking water and domestic water as

TDS level of water	
	
Drinking water	**Domestic water**
√- Not Acceptable	**√- Acceptable**

	TDS	Acceptability
	ppm	
Drinking water	**28**	**Not Acceptable**
Domestic water	281	Acceptable

OBSERVATION

It is recommended that mixed small % ground water (after detailed water analysis) in drinking water to maintained TDS of drinking water above 50 ppm.

2. RAIN WATER HARVESTING- COLLEGE PREMISES

OBSERVATION

1. College have number of rain water recharge pits in the college premises to increase the groundwater recharge.
2. College also has taken initiative to expand rain water harvesting system.

Rain water harvesting system in college premises

3. WATER TAP REDUCER

OBSERVATION

1. College has conventional water tap system in the area like bathrooms, toilets etc.
2. Conventional water tap system consumes or requires more water for the purpose of washings, cleanings etc.

Conventional Tap water system	Tap water system with Reducer
	
Existing tap water system uses more water while during purpose of washing of utensils, hands etc in college.	**Used reducer to tap water for purpose of washing of utensils, hands etc which reduces flow of water and ultimately saves the water.**
⃠	√

RECOMMENDATION

It is recommended that use the water reducer for water taping system. This helps saving the volume of water and subsequently energy cost of pumping also.

AIR QUALITY

INTRODUCTION

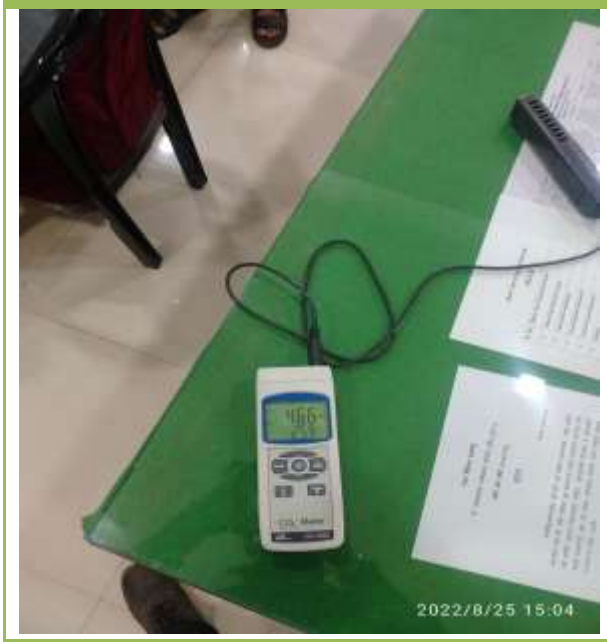
Indoor air is considered to be healthy when the air does not contains contamination in harmful concentrations and is acceptable when the majority of people feel satisfied. A human being breathes about 12,000 litres of air every day and is vital for our health. Exposure to hazardous airborne agents present in indoor space causes adverse effects such as respiratory and cardiovascular diseases, allergy and irritation of the respiratory tract and possibly leads to cancer.

Main source of indoor air pollutants are from outdoor air, household cooking (especially cooking with biomass or frying), tobacco smoking, polluted ambient air, cleaning agents, resuspension of dust during the cleaning activities, construction materials and paints, copy machines and printers as well as other human activities. Ambient air pollutant sources are vehicle emissions, thermal power plants, biomass burnings, construction work, unattended debris, open sewage pipes, fossil fuel based power generation and various industrial processes etc.

Threshold values for indoor air quality parameters				
Parameters	**Classification**			
	Class A	**Class B**	**Class C**	
Level	**Aspirational**	**Acceptable**	**Marginally acceptable**	
CO2	Ambient+350	Ambient+500	Ambient+700	ppm
PM2.5	<15	<25	<25	ppm
PM10	<50	<100	<100	ppm
HCHO	30			ppm
TVOC	<200	<400	<500	ppm
Occupational satisfaction	**90**	**80**	**-**	**%**

OBSERVATION

1. In college air quality is at good/ aspirational level.

Staff Room	Office
	
√-Aspirational	√-Aspirational

Passage	Library
	
√-Aspirational	√-Aspirational

Class Room	Computer Lab
	
√-Aspirational	√-Aspirational

Chemistry Lab	College Premises
	
√-Aspirational	√-Aspirational

College Kitchen

√-Aspirational

Staff Room	Office
	
√-Aspirational	√-Aspirational

Passage	Library
	
√-Aspirational	√-Aspirational

Class Room	Computer Lab
	
√-Aspirational	√-Aspirational

Chemistry Lab	College Premises
	
√-Aspirational	√-Aspirational

College Kitchen

√-Aspirational

Location	CO2	PM2.5	PM10	HCHO	TVOC	Level
	ppm	ppm	ppm	ppm	ppm	
Staff Room	446	4	4	0	40	Aspirational
Office	524	6	6	7	183	Aspirational
Passage	472	5	5	7	178	Aspirational
Library	463	5	5	7	192	Aspirational
Class Room	409	5	5	4	66	Aspirational
Computer Lab	444	5	5	21	85	Aspirational
Chemistry Lab	482	10	11	9	72	Aspirational
College Premises	401	5	5	4	1	Aspirational
College Kitchen	380	5	5	7	3	Aspirational

SOUND COMFORT/QUALITY

INTRODUCTION

Noise is unwanted sound. Ambient noise is all encompassing noise associated with any given environment and is usually a composite of sounds from many sources near and far. Any abnormal sound which irritates human being is called as noise pollution.

Noise is one of the undesirable products of technological civilization. Admits this civilization wherever we go, noise surrounds us. The roar of traffic, the passage of trains and aeroplanes, the bustle of crowds and the working of industry and the public utilities deafens our ears. Even home is invaded by noise. The noise from whatever source it comes from is undoubtedly, physiologically as well as psychologically harmful. Invading environment in dangerous proportions, it is an invisible but insidious form of pollutant Noise as a potentially harmful pollutant is being recognised as a great nuisance these days affecting the quality of the particularly, in urban areas.

The Environment (Protection) Act, 1986, under Sec. 6 has mentioned “Rules to regulate environment (Protection) Act, 1986, under Sec. 6 has mentioned “Rules to regulate environmental pollution”. This section has explained the maximum allowable limits of concentrations of various environmental pollutants (including noise) for different areas.

Air quality standards in respect of Noise			
Area code	**Category of Area/ Zone**	**Limits/Levels**	
		Day Time	**Night Time**
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence zone	50	40

OBSERVATION

Staff Room	Office
	
√-within permissible limits	√-within permissible limits

Passage	Library
	
√-within permissible limits	√-within permissible limits

Class Room	Computer Lab
	
√-within permissible limits	√-within permissible limits

Chemistry Lab	College Premises
	
√-within permissible limits	√-within permissible limits

College Kitchen

√-within permissible limits

Location	Limits	Limits/Levels
	dB	
Staff Room	64.8	Within permissible limits
Office	59.7	Within permissible limits
Passage	57.7	Within permissible limits
Library	61.8	Within permissible limits
Class Room	50	Within permissible limits
Computer Lab	49	Within permissible limits
Chemistry Lab	44.4	Within permissible limits
College Premises	53.4	Within permissible limits
College Kitchen	50.9	Within permissible limits

DAY LIGHT ILLUMINATION/COMFORT

INTRODUCTION

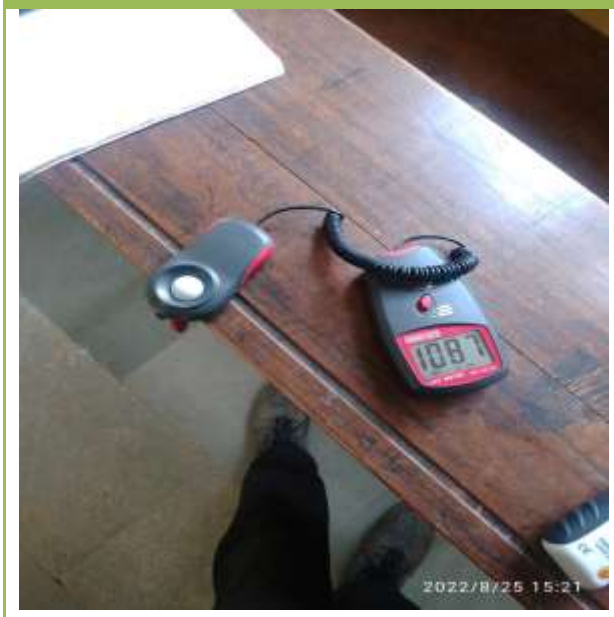
Light has significant impact on many body functions, including the nervous system, circadian rhythms, pituitary gland, endocrine system, pineal gland and alertness as these are affected by different wavelengths of light.

Variations over time in lighting conditions, in terms of intensity, illumination levels, distribution, ambient lighting and colour temperature, can stimulate alertness and well-being of people.

Threshold IL luminance level		
Building type	**Type of space**	**IL luminance**
		Lux
Schools	Classrooms	500
	Corridors	100
	Teachers rooms	300
	Libraries	500
	Offices	300

OBSERVATION

Staff Room	Office
	
√-within permissible limits	√-within permissible limits

Passage	Library
	
√-within permissible limits	√-within permissible limits

Class Room	Computer Lab
	
√-within permissible limits	√-within permissible limits

Chemistry Lab	College Premises
	NA
-	√-within permissible limits

College Kitchen

√-within permissible limits

Location	IL luminance	Limits/Levels
	lumens	
Staff Room	*382	Within permissible limits
Office	*304	Within permissible limits
Passage	*1087	Within permissible limits
Library	*257	Within permissible limits
Class Room	*191	Within permissible limits
Computer Lab	*257	Within permissible limits
Chemistry Lab	*153	Within permissible limits
College Premises	-	Within permissible limits
College Kitchen	*85	Within permissible limits

HEALTH AND SAFETY MANAGEMENT AND INFRASTRUCTURE

1. COLLEGE INFRASTRUCTURE

INTRODUCTION

College campus comprises of various buildings as main college building, girl's hostel, college canteen, parking area, central playing ground and number of underground water tank bodies for storage of water.

OBSERVATION

Sr. No.	Locations	Space
1	College building	Spacious
2	Staff rooms	Spacious
3	Laboratories	Spacious
4	Toilet Blocks	Spacious
7	Parking Area	Spacious
8	Passage	Spacious
9	Class rooms	Spacious
10	Staircase	Spacious
11	College premises	Spacious

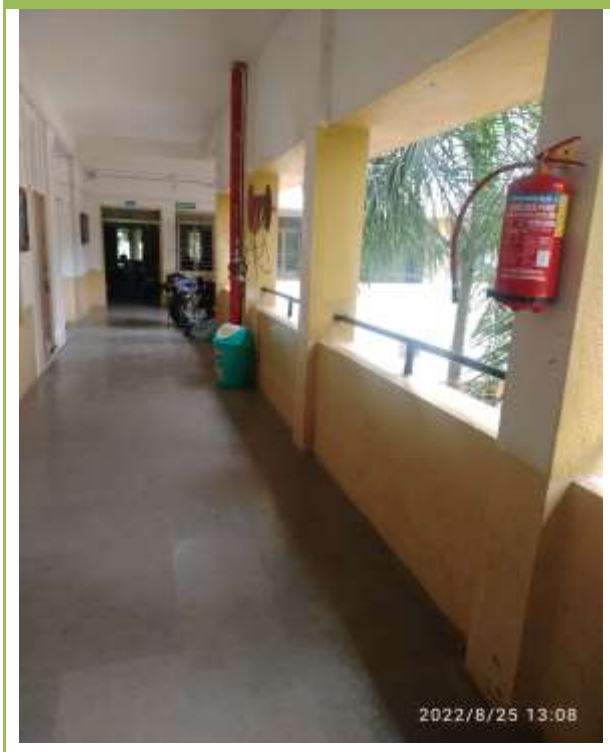
ASSESSMENT OF COLLGE CAMPUS BUILDING INFRASTRUCTURE

Sr No	Locations	Space	Ventilation	Natural Light	Cleanliness	Remark
1	College building	Spacious	Good	Good	Good	-
2	Staff rooms	Spacious	Good	Good	Good	-
3	Laboratories	Spacious	Good	Good	Good	-
4	Toilet Blocks	Spacious	Good	Good	Good	-
5	Parking Area	Spacious	Good	Good	Good	-
6	Passage	Spacious	Good	Good	Good	-
7	Class rooms	Spacious	Good	Good	Good	-
8	Staircase	Spacious	Good	Good	Good	-
9	College premises	Spacious	Good	Good	Good	-
10	College building	Spacious	Good	Good	Good	-
11	Staff rooms	Spacious	Good	Good	Good	-

2. HEALTH AND SAFETY MANAGEMENT

OBSERVATION

1. Regular cleaning of college campus and toilets is done by the cleaning staff. This involves dusting, floor cleaning and toilets cleanings.
2. Garden and parking area is also kept clean by staffs.
3. Cleaning equipment and washing liquids are provided to the cleaning staff.
4. Gloves, masks like sanitation gear have been provided to the staff.
5. In college premises audit team found the unwanted materials.
6. There are number of fire extinguishers are placed in college campus building for fire safety purpose. College also doing regular maintenance and installed new fire extinguishers.
7. Open wiring and not properly addressed cable wiring have been observed in college, that may lead to short circuits as well as from electrical safety it is dangerous. Also panel doors are not closed properly. So it is an urgent repair and corrected.

Fire safety	
Fire Extinguishers	**Validity of Fire extinguishers**
	
College has placed number of fire extinguishers at various places in the college campus	**Maintenance validity of fire extinguishers I updated regularly.**
√- Good	**√- Good**

Fire safety Certificate

MAHARASHTRA GOVT. APPROVED AGENCY

TRIANGLE FIRE

FIRE SAFETY & SECURITY ENGINEERS

Reg. Office: - S. No. 13/1/15, Spicer College Rd, Shitole Nagar, 47/1/244/2, Old Sangavi, Pune, Maharashtra 411027

Mob: - +91966956670, +919890059950,

Email: trianglefire4@gmail.com Website: www.trianglefires.com

HPT. /REFILLING & INSPECTION OF FIRE FIGHTING EXTINGUISHER EQUIPMENT

CERTIFICATE

Mr. / Mrs : Dr. Babasaheb Ambedkar College, Aundh, Pune, Maharashtra 411067

Type of the Extinguisher : ABC Stored Pressure

Capacity : 4 KG & 6 KG

No. of Fire Extinguisher : 05 NOS & 06 NOS

Date of Installation : 02/08/2022

Next Due Date : 01/08/2023

Parts in Fire Extinguisher

a) Pressure Filled
b) Yellow Seal
c) Washer
d) Hose Pipe
e) Squeeze Grip
f) Powder
g) Safety Clip
h) Inner Container Siphon Tube
i) Plunger Mechanism
j) Warranty Sticker

CONDITION OF THE FIRE EXTINGUISHER: New Installed

Note: - One Year Warranty Only Automatic Pressure Drop.

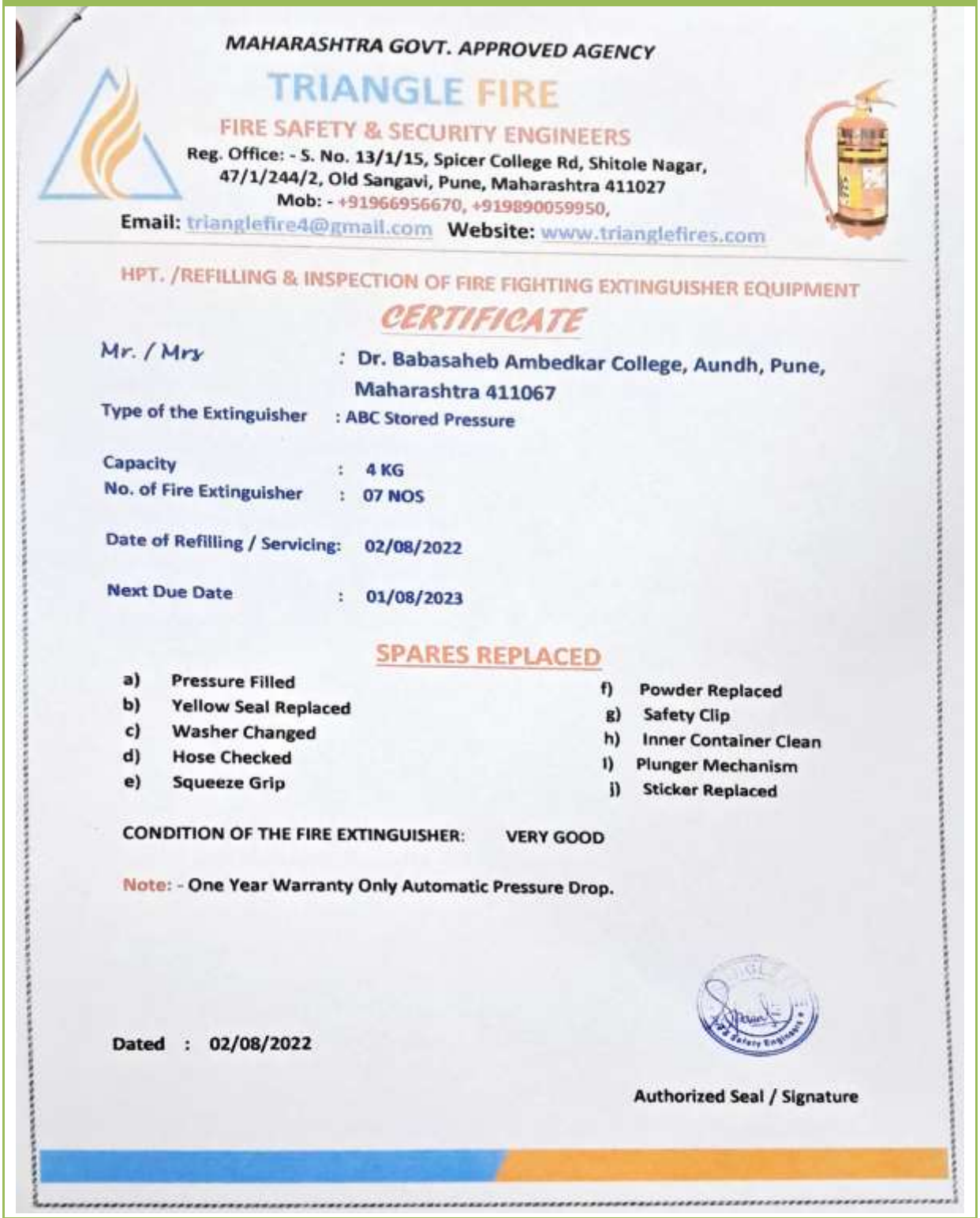
Dated : 02/08/2022

Authorized Seal / Signature

College has done fire extinguisher maintenance and also newly installed

√- Well maintained

Fire safety Certificate



MAHARASHTRA GOVT. APPROVED AGENCY

TRIANGLE FIRE

FIRE SAFETY & SECURITY ENGINEERS

Reg. Office: - S. No. 13/1/15, Spicer College Rd, Shitole Nagar, 47/1/244/2, Old Sangavi, Pune, Maharashtra 411027

Mob: - +91966956670, +919890059950,

Email: trianglefire4@gmail.com Website: www.trianglefires.com

HPT. /REFILLING & INSPECTION OF FIRE FIGHTING EXTINGUISHER EQUIPMENT

CERTIFICATE

Mr. / Mrs : Dr. Babasaheb Ambedkar College, Aundh, Pune, Maharashtra 411067

Type of the Extinguisher : ABC Stored Pressure

Capacity : 4 KG

No. of Fire Extinguisher : 07 NOS

Date of Refilling / Servicing: 02/08/2022

Next Due Date : 01/08/2023

SPARES REPLACED

a) Pressure Filled
b) Yellow Seal Replaced
c) Washer Changed
d) Hose Checked
e) Squeeze Grip
f) Powder Replaced
g) Safety Clip
h) Inner Container Clean
i) Plunger Mechanism
j) Sticker Replaced

CONDITION OF THE FIRE EXTINGUISHER: VERY GOOD

Note: - One Year Warranty Only Automatic Pressure Drop.

Dated : 02/08/2022

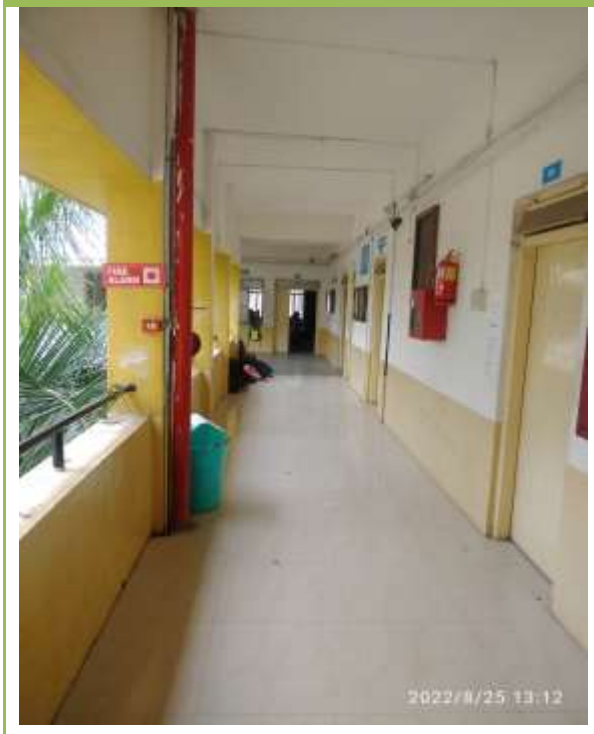
Authorized Seal / Signature

College has done fire extinguisher maintenance and also newly installed

√- Well maintained

Electrical safety	
Unwanted material	**Unwanted material**
	
Unwanted waste material placed near electrical panel	**Unwanted waste material placed near electrical panel**
⃠- need to be clean	**⃠- need to be clean**

Electrical safety Ladder for terrace	Electrical safety Electrical panel door lock
	
Unwanted waste material placed near electrical panel	**Electrical panel not clean**
⃠- need to be clean	**⃠- need to be clean**

Health safety	
Dust bins for waste disposal	**Dust bins for waste disposal**
	
Properly placed dust bins in college for waste disposal	**Properly placed dust bins in college for waste disposal**
√- Good practice	**√- Good practice**

Health safety	
Conventional water taping system	**Hands free water taping system**
	
College have currently conventional water taping system	**College can adopts hands free water taping system. This saves the water and also good for personal health protection to avoid frequent hand touching to water taps.**

GENERAL RECOMMENDATIONS

Sr No	Points	Actions need to be done regularly if not
1	Electrical panels doors	Closed the panel doors
2	Electrical wiring	Wiring should be properly dressed
3	Electrical wiring connection, hanging etc	Wiring connection should be appropriate and not any hanging of live connections
4	Electrical panel rooms	Electrical panel room should cleaned and remove all unwanted materials.
5	Fire extinguishers	Need to renew maintenance immediately after due date
	Fire hydrant system	College installed properly fire hydrant system with regular maintenance of it. Also college undertook safety drill for college staff.
6	Unwanted materials	Remove and placed at appropriate place or disposed of immediately.
7	Conventional water taping system	College can adopts hands free water taping system. This saves the water and also good for personal health protection to avoid frequent hand touching to water taps.

NO VEHICLE DAY INITIATIVE

OBSERVATION

1. Many of the college students and staff use the private or own vehicles to come college.
2. It contributes the CO2 emission due to burning of petrol or diesel in the vehicles.
3. College has taken initially on pilot basis “no vehicle day” but then after that college take initiative of “no vehicle day” on 1st day of every month.

No Vehicle Day Initiative- On pilot basis

रयत शिक्षण संस्थेचे .

डॉ. बाबासाहेब आंबेडकर महाविद्यालय, औंध, पुणे - ६७

दि.२९/०१/२०१९

नोटीस

महाविद्यालयातील सर्व विद्यार्थ्यांना व सेवकांना कळविण्यात येते की, या महिन्याच्या म्हणजेच शुक्रवार, १ फेब्रुवारी २०१९ या दिवशी "No Vehicle Day" पाळण्यात येणार आहे. या दिवशी विद्यार्थी व सेवक यांनी फक्त सार्वजनिक वाहनाचा वापर करून महाविद्यालयात उपस्थित राहावे.

आपल्या सहकार्यातून पर्यावरण संरक्षणाचा हा उपक्रम यशस्वी होणार आहे. यासाठी आपले सर्वांचे सहकार्य अपेक्षित्त आहे.

प्राचार्य,
डॉ. बाबासाहेब आंबेडकर
महाविद्यालय, औंध, पुणे -६७.

No Vehicle Day Initiative- 1st day of every month

स्वत: शिक्षण संस्थेचे,

भारतरत्न डॉ. बाबासाहेब आंबेडकर महाविद्यालय औंध, पुणे ६७.

"१ तारिख नो व्हेईकल डे"

पर्यावरण संरक्षण व इंधनबचती साठी महाविद्यालय प्रत्येक महिन्याच्या १ तारखेला "नो व्हेईकल डे" हा उपक्रम राबवित आहे. या दिवशी शिक्षक,सेवक व विद्यार्थी यांनी सार्वजनिक वाहनाचा वापर करावा. स्वत: चे खाजगी वाहनाचा वापर महाविद्यालयात येताना करु नये.आपल्या सहकार्यातून पर्यावरण संरक्षणाचा हा उपक्रम यशस्वी होणार आहे. यासाठी आपले सर्वांचे सहकार्य अपेक्षित आहे

प्राचार्य

SAVING DUE TO "No vehicle day" on every Saturday of week		
Number of vehicles in college premises	100	nos
Average running of vehicle	5	km/vehicle
Average fuel required	250	litres/day
Average cost of fuel	25000	INR/day
Number of Saturday per month	4	nos
Average fuel save	1000	litres/month
Average cost save	100000	INR/month
Average CO2 emission reduction per month	2.68	tonnes of CO2e
Average CO2 emission reduction per year	32.16	tonnes of CO2e

RECOMMENDATION

It is also recommended that college can be taken initiative of "No Vehicle Day" on every Saturday of the week

OTHER ENERGY EFFICIENT, GREEN, HEALTH, WASTE PRACTICES BY THE COLLEGE MANAGEMENT

1. SOLID WASTE MANAGEMENT (SCRAPS LIKE PLASTIC, PAPER ETC)/ E-WASTE MANAGEMENT/ CLEANILNESS DRIVE/CAMPAIGN

INTRODUCTION

College have good policy for solid waste generated in the college like old newspapers, books, scrap boxes, etc.

E-WASTE MANAGEMNT

Electronic waste or e-waste describes discarded electrical or electronic devices. Used electronics which are destined for reuse, resale, salvage, recycling, or disposal are also considered e-waste. Informal processing of e-waste in developing countries can lead to adverse human health effects and environmental pollution.

Electronic scrap components, such as CPUs, contain potentially harmful components such as lead, cadmium, beryllium, or brominates flame retardants. Recycling and disposal of e-waste may involve significant risk to health of workers and communities in developed countries and great care must be taken to avoid unsafe exposure in recycling operations and leaking of materials such as heavy metals from landfills and incinerator ashes.

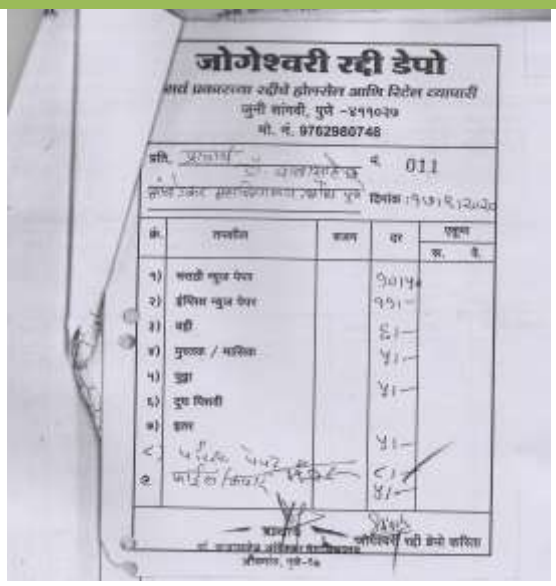
The environmental impact of the processing of different electronic waste components

E-Waste Component	Process Used	Potential Environmental Hazard
Cathode ray tubes (used in TVs, computer monitors, ATM, video cameras, and more)	Breaking and removal of yoke, then dumping	Lead, barium and other heavy metals leaching into the ground water and release of toxic phosphor
Printed circuit board (image behind table – a thin plate on which chips and other electronic components are placed)	De-soldering and removal of computer chips; open burning and acid baths to remove metals after chips are removed.	Air emissions and discharge into rivers of glass dust, tin, lead, brominated dioxin, beryllium cadmium, and mercury
Chips and other gold plated components	Chemical stripping using nitric and hydrochloric acid and burning of chips	PAHs, heavy metals, brominated flame retardants discharged directly into rivers acidifying fish and flora. Tin and lead contamination of surface and groundwater. Air emissions of brominated dioxins, heavy metals, and PAHs
Plastics from printers, keyboards, monitors, etc.	Shredding and low temp melting to be reused	Emissions of brominated dioxins, heavy metals, and hydrocarbons
Computer wires	Open burning and stripping to remove copper	PAHs released into air, water, and soil.

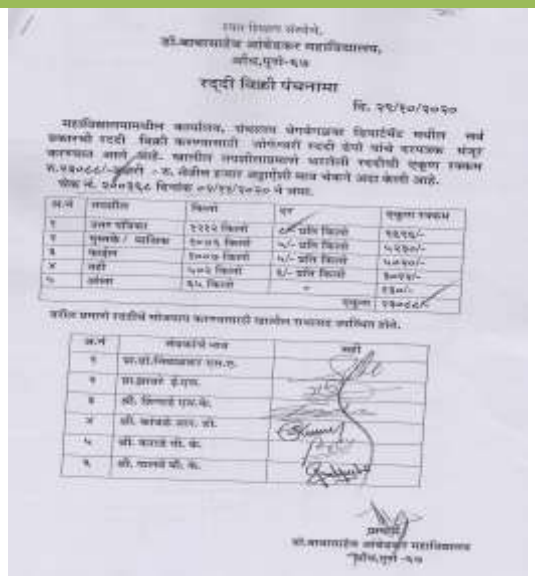
OBSERVATION

1. College has given solid waste generated like papers, metal scrap, garden waste etc to the authorised recycle for proper channelling the solid waste.
2. This helps to reduce the CO2 emission reduction due to recycling of the solid waste.
3. College also take initiative for e-waste recycling drive and MOU with different organaisations like Janwani, Pune, Mahalaxi E recyclers, Kolhapur etc

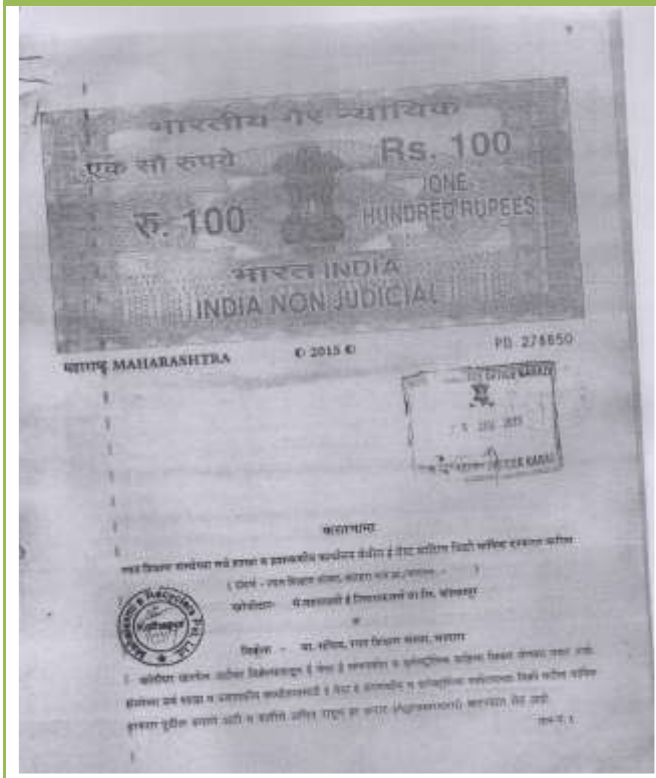
Scrap management



Scrap management



E-waste management



Scrap management

रयत शिक्षण संस्थेचे,

डॉ. बाबासाहेब आंबेडकर महाविद्यालय, औंध, पुणे-67

E-West and Pistic West Mega Collection Drive अभियान कार्यक्रम अहवाल 2021

19/12/2021

राष्ट्रीय सेवा योजना

Janwani
जनवाणी

Administrative Office

Registered Office

The principal
Dr. Babasaheb Ambedkar College
Aundh Pune

Thank you,

With Regards,

Senior Project Officer

E-waste drive

Cleanliness drive

2. TREE PLANTATION, SOIL CONSERVATION ETC

INTRODUCTION

Tree-planting is the process of transplanting tree seedlings, generally for forestry, land reclamation, or landscaping purpose

In silviculture the activity is known as reforestation, or afforestation, depending on whether the area being planted has or has not recently been forested. It involves planting seedlings over an area of land where the forest has been harvested or damaged by fire, disease or human activity. Tree planting is carried out in many different parts of the world, and strategies may differ widely across nations and regions and among individual reforestation companies. Tree planting is grounded in forest science, and if performed properly can result in the successful regeneration of a deforested area. Reforestation is the commercial logging industry's answer to the large-scale destruction of old growth forests, but a planted forest rarely replicates the biodiversity and complexity of a natural forest.[citation needed]

Because trees remove carbon dioxide from the air as they grow, tree planting can be used as a geoengineering technique to remove CO
2 from the atmosphere. Desert greening projects are also motivated by improved biodiversity and reclamation of natural water systems, but also improved economic and social welfare due to an increased number of jobs in farming and forestry.

Canopies in tropical and temperate forests can be important habitats for many animals and plants. A dense canopy cover will let little light reach the ground and will lower temperatures.
The canopy protects the ground from the force of rainfall and makes wind force more moderate

OSERVATION

1. In the college premises there are number of trees which are maintained by the college.
2. College also took initiative of tree plantation with the help of students in the city area.

Tree plantation activities

3. ENERGY EFFICIENT TECHNIUES

INTRODUCTION

Due to climate change and CO2 emission it is necessary to use energy efficient technologies. It helps to reduce the energy consumption without affecting the output. It also helps the reduced the CO2 emission reductions.

OSERVATION

1. College has taken step by step intuitive to implement various energy efficient equipment/technologies the college.

2. College has implemented various energy efficient equipment like LED lighting, Solar street lights, BEE star rating equipment's like refrigerator, Acs etc

Energy efficient equipment/techniques	
	
BEE star rating AC	**BEE star rating AC**

Energy efficient equipment/ techniques	
	
BEE star rating refrigerator	**LED lightings**

REFERENCES AND STANDARDS

1. Bureau of Energy Efficiency (BEE), Ministry of Power, Government of India
2. Energy Conservation Building Code (ECBC), 2007, BEE, Government of India
3. Indian Green Building Council (IGBC), India
4. National Ambient Air Quality Standards,2009, Central Pollution Control Board (CPCB), Government of India
5. The Noise (Pollution and Control) Rules, 2000 Government of India
6. Municipal Solid Wastes (Management and Handling) Rules, 2000, Government of India
7. Solid Waste Management Rules, 2015, Government of India
8. E-waste (Management) Rules, 2015, Government of Indi
9. Plastic Waste (Management and Handling) Rules, 2016, Government of India
10. National Electrical Code, 2011
11. Fire Extinguisher Standards,2190-2010, Bureau of Indian Standards (BIS
12. IS 14489-1998, Code of Practice of Occupational and Health audit
13. Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE)