

### **7.1.3. POLICY DOCUMENT ON ENVIRONMENT AND ENERGY USAGE**

For Shri L P Raval College of Mass Media  
& Management Studies

**Principal**

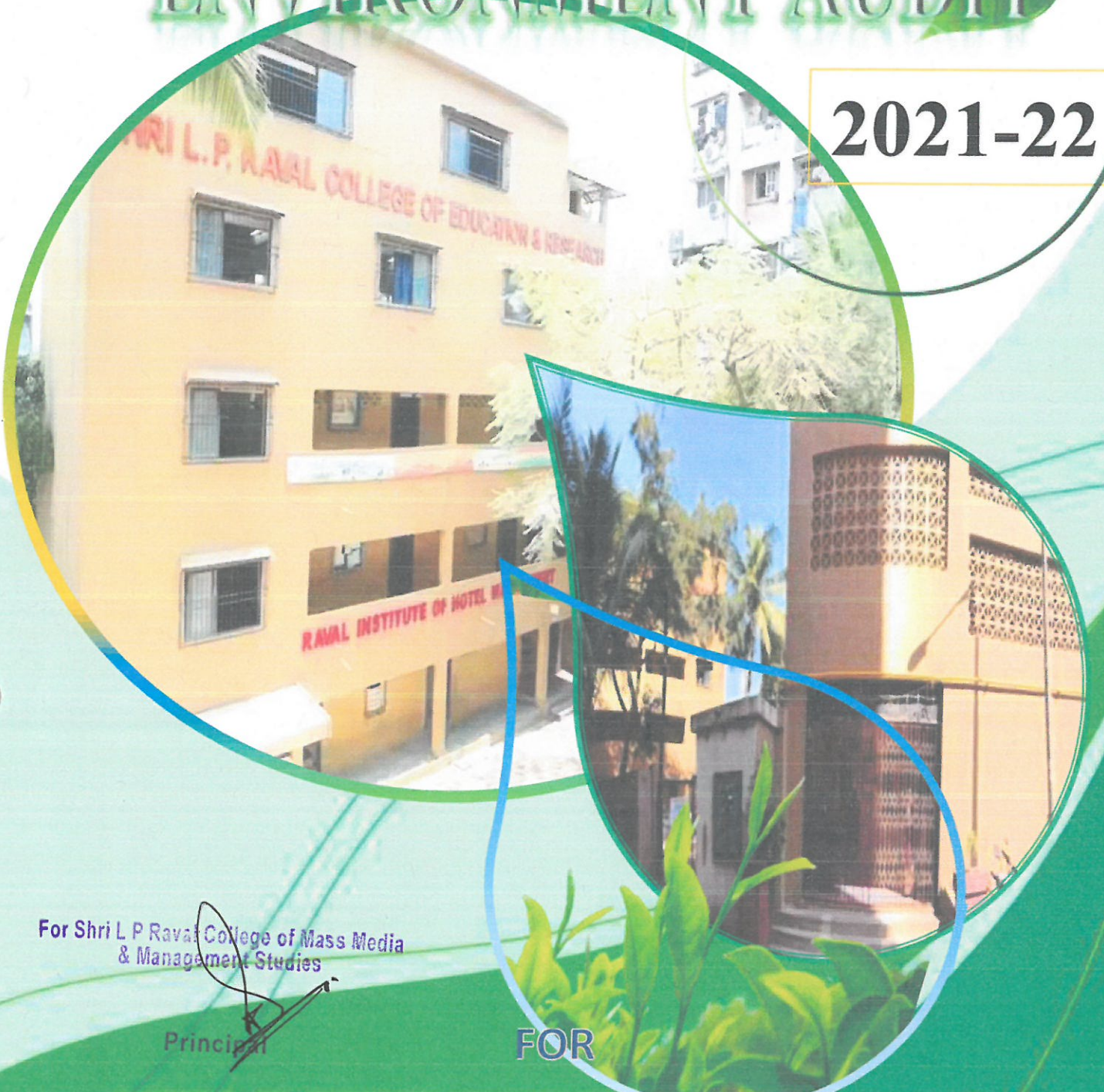


# GREEN AUDIT

# ENERGY AUDIT<sub>eco</sub>

# ENVIRONMENT AUDIT

2021-22



For Shri L.P. Raval College of Mass Media & Management Studies

Principal

FOR

## SHRI L. P. RAVAL COLLEGE OF MASS MEDIA &

## MANAGEMENT STUDIES





**Green Audit**  
**Energy Audit**  
**Environment Audit**  
**2021-22**

**FOR**

Shri L. P. Raval Education Trust's  
**SHRI L. P. RAVAL COLLEGE OF MASS MEDIA & MANAGEMENT STUDIES**  
RAVAL NAGAR, NEAR NEW POST OFFICE, MIRA ROAD (E),  
THANE – 401107. MAHARASHTRA, INDIA

**On APRIL 2022**

**PREPARED BY;**

For Shri L P Raval College of Mass Media  
& Management Studies

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Audit Conducted by:

**Quality Care Alliance.**

(Certified for ISO 9001, ISO 1400 & ISO 45001)

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## Campus Information

Green Audit Report of SHRI L. P. RAVAL COLLEGE OF MASS MEDIA & MANAGEMENT STUDIES has been prepared by Quality Care Alliance based on review of findings of internal green & environmental audits conducted by College, desktop review of documents/records, virtual tour of the College campus and telephonic interviews of faculty, non-teaching staff & students.

The audit was conducted in **March 2022**.

The Green Audit Report also presents green initiatives followed and taken up by the College and provides suggestions and recommendations to improve environmental sustainability.

### 1. Campus Information

College campus consists of two buildings, one is operational and another is under construction. As the under- construction building is non-operational, it is not considered in the

#### Green Audit Scope.

College building has classrooms, well-equipped laboratories, a library and an auditorium. College Sports ground has indoor and outdoor games facilities. There are 4 gardens in the campus including an herbal garden. The area details of the College building is presented in Table 1.

**Table1: Facilities Details**

Floor	Facilities
Ground floor	Computer Laboratory, 1 classroom, Canteen, Girls Common room, Principal Office, Administrative office, 2 Washroom
First floor	4 Classroom, 2 Washroom
Second floor	4 Classroom, Computer Laboratory, 2 Washroom
Third floor	Library, 3 Classroom, Lecture Hall, 2 Washroom
Fourth floor	4 Classroom, Staff room, Auditorium, 2 Washroom
Fifth floor	2 Classroom, Physics laboratory, Biology Laboratory
Terrace	Solar Panels

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**Quality audits on environment and energy are regularly undertaken by the institution.**

Sr. No.	Quality audits on environment and energy	
1	<b>Green Audit</b>	QCA, Mumbai.
2	<b>Energy Audit</b>	QCA, Mumbai.
3	<b>Environment Audit</b>	QCA, Mumbai.
4	<b>Clean and Green Campus Recognition Award</b>	QCA, Mumbai
5	<b>Environmental Promotional Activities</b>	<b>13 Activities</b>

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## INDEX OF CRITERIA

### Environmental Consciousness and Sustainability

Sr. No.	Efforts for the conduct of Quality Audit on Environment	Relevant Exhibits
1	Green Audit	Certificates and Report
2	Energy Audit	Certificates and Report
3	Environment Audit	Certificates and Report
4	Clean and Green Campus Recognition Award	Certificate
5	List of Environmental Promotional Activities	List of the Activities
6	Environmental Promotional Activities	PPT

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# REPORT

ON

## Green, Energy & Environment Audit

For

Shri L.P. Raval Education Trust's  
**SHRI L. P. RAVAL COLLEGE OF MASS MEDIA & MANAGEMENT  
STUDIES**

RAVAL NAGAR, NEAR NEW POST OFFICE, MIRA ROAD (E),  
THANE – 401107. MAHARASHTRA, INDIA

On APRIL – 2022

Prepared by



Quality Care Alliance, Mumbai.

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ENERGY



AIR QUALITY



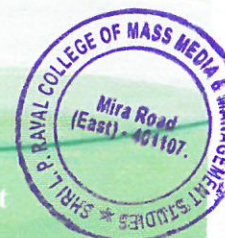
WATER



WASTE

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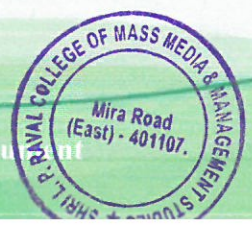


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## INTRODUCTION

Shri L. P. Raval Education Trust was established in 1997 with the objective to serve the citizens of Mira - Bhayandar and surrounding suburbs. Since then, we have started academic institutions to provide quality education for deserving citizens. More than 10,000 students have passed out from our campus and made their careers in various fields of Business and Industries, Exports & Trading, Public and Private sectors, Defence Forces, Academic Institutions, Banking & Insurance sectors in India and abroad. Our academic activities started by establishing English and Gujarati Medium Schools (SSC Board), Junior College Of Science & Commerce offering IT and CS Subjects (HSC Board), Degree college of Mass Media & Management studies offering BMM & BMS Courses (Affiliated to University Of Mumbai), College Of Education & Research B.Ed. full time course (Recognized by NCTE, Affiliated to University of Mumbai.), BAF & B.Sc.-HS (Hotel Management) and Diploma and certificate courses in Hotel Management.

## MISSION

As an educational trust our mission is to generate new knowledge, achieve leadership, maintain a level of excellence, offer balanced and broad academic programs while seeking to attract and serve students who have been underserved by higher education.

## VISION

The vision at Raval education trust is to provide excellent educational opportunities while meeting and exceeding challenges in shaping the future of our world.

Green, Energy & Environment Audit at SHRI L. P. RAVAL COLLEGE OF MASS MEDIA & MANAGEMENT STUDIES was conducted in accordance with risk based audit methodology in the month of **FEB 2022**.

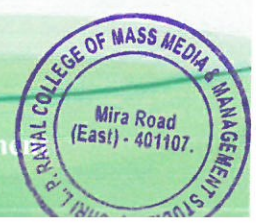
The purpose of the audit was to make sure that the practices followed in the campus are healthy and environmentally friendly. With this in mind, the specific objectives of the audit were to evaluate the degree to which the departments are in compliance with the applicable regulations, policies and standards and to ensure that the development of the college aims at sustainable development and green campus. The audit was based on an examination of the policies laid down, on data analysis & collected, findings from interviews with staff.

### The team members of the audit study.

Mrs. Lizy Jose MANAGEMENT REPRESENTATIVE	Mrs. Suparna Roy ASST. PROFESSOR
Mr. Kiran Chavan SANJAY RAJ K ( AUDITOR & Consultants	Mrs. Ravina Soni Asst. Professor

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## EXECUTIVE SUMMARY

The premises were evaluated against various criterion by the National Assessment and Accreditation Council (NAAC). The major observations are.

### Renewable Energy

- The college has a plan to install solar panels in future.
- The quantity of plate waste {organic waste with higher starch contents} is negligible, consequently, there is no potential for biogas generation.
- The plan has been proposed for Installing Compost pit.

### Green Campus Initiative

- The movement of vehicles inside the campus is with vehicles of staff, faculties, students and guests are not allowed to enter the campus.
- There is restriction on the usage of plastic, which may be extended to completely ban plastic usage inside the campus.
- The campus is surrounded by a lot of greenery, trees, and proper landscaping.

### Environment & Energy Initiative

- The Institute has limited campus for green landscaping.
- Small plants are planted in the compound.
- In the periphery of the campus, along the rear and wings, a thick belt of large trees is planted to bring down noise and cut down dust storms.
- Indoor plants can be potted along the corridors and entrance of the building.

### Air Quality & Ventilation

- The class rooms and other area are well ventilated to ensure proper air quality.
- The fans are appropriately installed to ensure proper air circulation
- The indoor as well as outdoor plants have also been provided to improve the environment.

### Lighting System

- The usage of natural light is optimized through well designed structure and windows
- All the lamps are replaced with LED.
- The switching of the lamps is done manually.

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## Water Quality & Conservation

- The water is supplied by the Corporation, which is a common practice in and around Mira Road (Mumbai).
- Water purifiers & coolers are provided at convenient locations and on each floor.
- The distribution network and piping are more or less satisfactory and adequate.

## Waste Management

- The water is discharged into the common municipal drain, which is a common practice in and around Mira Road (Mumbai).
- The organic waste is segregated and disposed of through municipal waste.
- The electronic gadgets / waste is either donated if useful or handed over to waste collectors.
- The general solid waste is disposed of through Municipal Corporation.

## Air Conditioning System

- The Air Conditioners are operated as required with manual control. The operation is minimal, consequently automation may not be economical.
- The room temperature is maintained at 24 to 25 °C, which is well within the recommended values.
- The Air Conditioners are serviced regularly and properly maintained.
- Most of the Air conditioners units are energy efficient with star ratings of 3 and above.



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## Infrastructure usage

- Ramps are provided on the ground floor to address the needs of differently able people.
- The on-campus movement is distributed with multiple staircases.
- There are adequate fire extinguishers located at key areas. The college has initiated appropriate measures to meet the safety requirement.
- The draining system for washrooms is efficient and effective.
- No seepage was observed in the building premises.

## Green IT culture

- Energy efficient computers and laptops have been procured.
- Electronic communication is encouraged to minimize usage of papers.
- Most of the papers are reused for doubled sided printing to further minimize usage of paper

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## ENERGY EFFICIENCY:

### Electricity:

A single electricity meter is provided for the entire complex. The monthly average electricity consumption from December, 2021 to June, 2022 is 2700 Units.



Further, we presume that the institute has holiday in May/ June each year and Dec January & February are the winter season, in which energy consumption is less. The areas of major consumption of electricity are:

### Details of Light Units

Sr. No	Gadgets	Total No	Watt
1	Led Tube Light	315	20
2	Ceiling Fans	98	75Avg
3	Air Conditioners/Split Ac	06	1000Avg
4	Desktops	30	70
5	Laptops	5	50
6	Printers	4	30
7	CCTV Cameras	70	10
8	Water cooler	04	750 Avg

### Details of AC

Location	Type	Capacity	No
Staff Room	Split Ac	2Ton	01
Principal Cabin	Split Ac	2Ton	01
Management Office	Split Ac	2Ton	01
Computer Lab	Split Ac	2Ton	02

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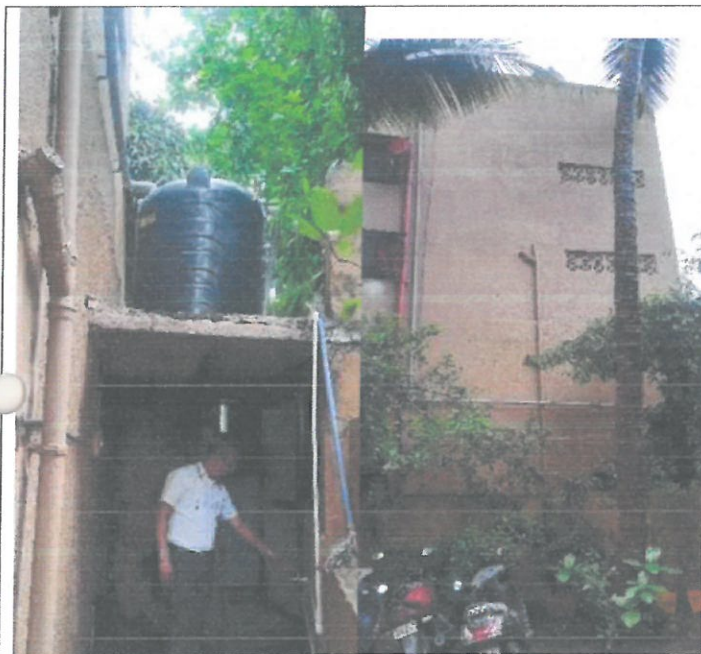
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## ENVIRONMENTAL SYSTEM



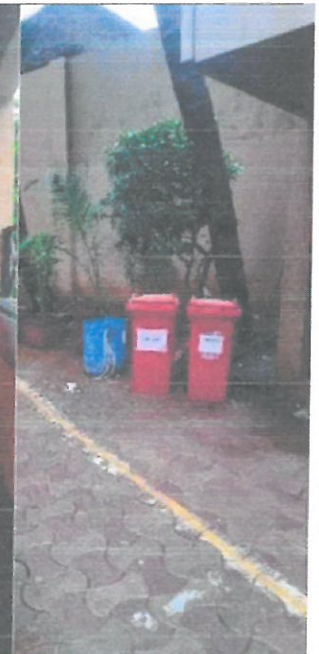
- Good Daylight Design and Ventilation
- All the corridors receive good daylight due to the large windows.
- Corridors are wide with good ceiling height.
- Some indoor plants have been installed to improve air quality.
- Classrooms also have a high ceiling with wide doors and large windows. Windows are kept open to receive sunlight.
- Curtains are provided on some of the windows to avoid glare.
- Washrooms are provided with exhaust fans to disperse heat, fumes and odours.



Wastewater management harvesting system



RO for Drinking water



Waste Segregation

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## Indoor plants



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## Carbon Sequestration:

Carbon sequestration is the removal of carbon dioxide from the air by plants. Carbon storage is the amount of carbon already bound up in the parts of woody vegetation.

- Thirteen big trees and some small plants are planted to mitigate CO2 emissions and have the potential to enhance carbon sequestration capacity on the campus.

CARBONSEQUESTRATION							
Tree Name	Botanical Name	Wood Density (gm/cm <sup>3</sup> )	Height (cm)	Girth (cm)	Canopy	Total Biomass (gms)	Total carbon sequestration on kg/y
					(cm)		
Coconut tree	<i>Cocos Nucifera</i>	0.6	1000	85	400	384144	192
Rain tree	<i>Samanea saman</i> (Jacq.) Merrill	0.45	10	1.65	9	569422	284
Gulmohar	<i>Delonix Regia</i>	0.59	6	0.89	3	281296	140
Pimpal	<i>Ficus religiosa</i> Linn.	0.44	8	1.45	9	556827	278
Amba	<i>Mangifera indica</i> Linn.	0.52	8	1.3	6	806313	403
Champa	<i>Magnolia champaca</i>	0.58	5	0.86	6	215167	107
Jaswand	<i>Hibiscus rosa</i>	0.52	8	0.89	6	330563	165

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### Calculation of Carbon Sequestration:

Volume of Tree =  $3.14 * r * H$  ( r: radius of girth, H : Total height ) AGB= Above ground level biomass ( Volume x wood density of tree ) BGB= Below ground level biomass ( 50 % of AGB )

Total dry biomass = AGB+BGB

Carbon Sequestration = Biomass x 50%



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## WATER MANAGEMENT

- Mira Bhayander Mumbai Municipal Corporation (MBMC) supplies water to the institute. BMC has installed water meters to monitor water consumption & for water charges. The charges are as per water consumption in the premises.
- Mops are used for floor cleaning.
- No leaking faucets were seen anywhere in washrooms
- If water leakage is observed, plumber is called immediately to attend to the complaints.
- Water conservation faucets in washrooms were not seen. Installation of such faucets can save water and will help in minimizing the water footprint of the institute.
- No signage emphasizing water conservation were found in the institute.
- Water conservation education lessons & programs are conducted for students and need to be done regularly.
- After college program, administrators and community groups need to be encouraged to conserve water in line with the college practices



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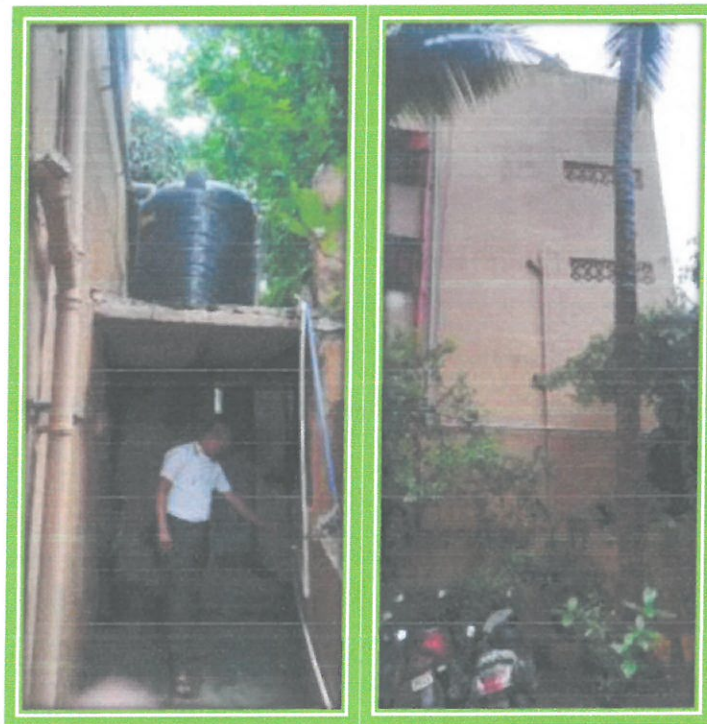
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### Requirements for Educational Institutions

Filaments	Educational Institutions(Non-residential)	
	For boys	For girls
<b>Water closets</b>	1per40students	1per25students
<b>Ablution taps</b>	1ineachwater-closet	1ineachwater-closet
	1watertapwithdrainingarrangement/50students	
<b>Urinals</b>	1per20students	
<b>Washbasins</b>	1per60students,minimum2	1per40students, minimum2
<b>Baths</b>	-	-
<b>Drinking water fountains or taps</b>	1per50students	1per50students
<b>Cleaner's sinks</b>	1perfloor, minimum	

### WASTE WATER MANAGEMENT

- Sanitary wastewater generated from washrooms is connected to sewerage system provided by MBMC.
- Chemical wastewater generated in chemical labs in the institute is also connected to sewerage system.



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*[Signature]*  
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## Infrastructure & Safety

Movement on-campus (Distributed / non-distributed leading to crowds)

- The premises are provided with multiple staircases with necessary entrances to ensure quick and effective movement in normal as well as emergency situations.
- The movement of vehicles inside the campus is with vehicles of staff faculties, students and guests are not allowed to enter the campus.
- There is restriction on the usage of plastic, which may be extended to completely ban plastic usage inside the campus.

## Firefighting & fire escape system:

There are efficient fire extinguishers in the premises, which are checked / refitted as per the suppurated frequency.

- The premise is provided with multiple staircases with requisite entrances to ensure quick and effective movement in emergency conditions.



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### **Draining system:**

- The drains from the washrooms and other areas are property collected and disposed
- **Seepage in the building:**
- The premise was visually inspected for seepage. No seepage was observed in any of the places.

### **Green Culture**

- The LED / LCD monitors laptops have been procured which are efficient
- These monitors are not only energy efficient but also generate minimal heat and cut down on air conditioning load,
- Electronic communication is encouraged to minimize usage of papers.
- Most of the papers are reused for doubled-sided printing to further minimize usage of paper.
- The following steps may be initiated to further enhance the efficiency of the systems.
- An efficient power management system may be incorporated to
- Switch off the display if not in use.
- Put the computer in sleep / switch off the machines, if not used for prolonged periods.
- Optimize the brightness of the screen.
- Discourage use of screen savers, which has similar power consumption.
- Paper-less communication:
- The major internal as well as external communication is through electronic media.
- Re-using one sided paper for printing:
- It was observed that two sides printed on the back side of used paper in more than 80 % of the cases.
- Cellphone usage banned inside the campus.

For Shri L.P Raval College of Mass Media  
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# CLEAN AND GREEN CAMPUS AWARD



**Consultancy & Services** Cert. No.: QC/AW/21-22/053

## Clean & Green Campus Award

This is to certify that **SHRI L. P. RAVAL COLLEGE OF MASS MEDIA & MANAGEMENT STUDIES**, RAVAL NAGAR, NEAR NEW POST OFFICE, MIRA ROAD (E), THANE - 401107, has been honoured with "Best Green Campus Award" for maintaining the Campus greenish and offering an Eco-Friendly environment to the stakeholders, The organisation imparts the thrust of enovating new ideas to accomplish Eco-Friendly environment in the Campus. The Organisation underwent 'Green Audit, Environment Audit and Energy Audit' on 15- April- 2022.

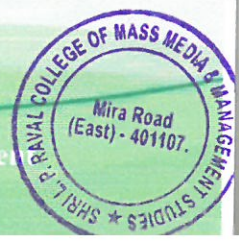
*This Certificate is Valid till : 15-APRIL-2024*

*Sanjay Kulkarni*  
Project Head & Green Building Consultant  
**QUALITY CARE ALLIANCE**  
[www.qualitycare.net.in](http://www.qualitycare.net.in) | [qualitycare.in@gmail.com](mailto:qualitycare.in@gmail.com)

An Environment and Energy Consultancy developing healthy and Sustainable Environment

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# List of Environmental Promotional Activities

Academic Year 2021 -2022

## List of Environmental Promotion Activities

Sr.No.	Date	Title of event	Department
1	26/08/2021	Tree Plantation at college campus	Community Work
2	02/09/2021	Plastic Awareness Event	DLLE
3	26/09/2021	Plastic Recycle	Community Work
4	26/07/2021	Swach Sagar	Community Work
5	11/01/2022	Green Marketing trends in Marketing	BMS
6	13/01/2022	Environmental sustainability in Business	BAMMC
7	18/01/2022	Effects of E-Waste on Environment	B.Sc HS
8	19/01/2022	Clean and Green	Community Work
9	24/01/2022	Demographic Environment and Entrepreneurship	BAF
10	25/01/2022	EMS –Environment Management System	BAF
11	15/02/2022	Awareness on Sound pollution	Community Work
12	04/03/2022	Say no to plastic	Community Work
13	08/03/2022	Restoration for sustainable future	Community Work

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**Tree Plantation at College Campus**  
**26/08/21**



**Plastic Awareness Event 02/09/2021**



**Effects of E-Waste on Environment 18/01/22**



**Plastic Recycle 26/09/2021**

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**Green Marketing trends in Marketing**  
**11/01/22**



**SWACHH SAGAR 26/07/21**



**Environmental sustainability in Business**  
**13/01/22**



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**Clean and Green 19/01/22**



**Demographic Environment and Entrepreneurship 24/01/22**



**EMS –Environment Management System 25/01/22**



**Awareness on Sound pollution 15/02/22**

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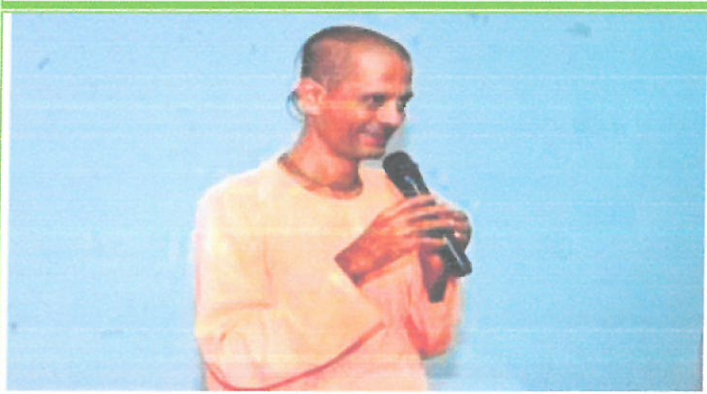
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Say No To Plastic 04/03/22



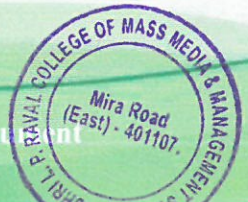
Say No To Plastic 04/03/22

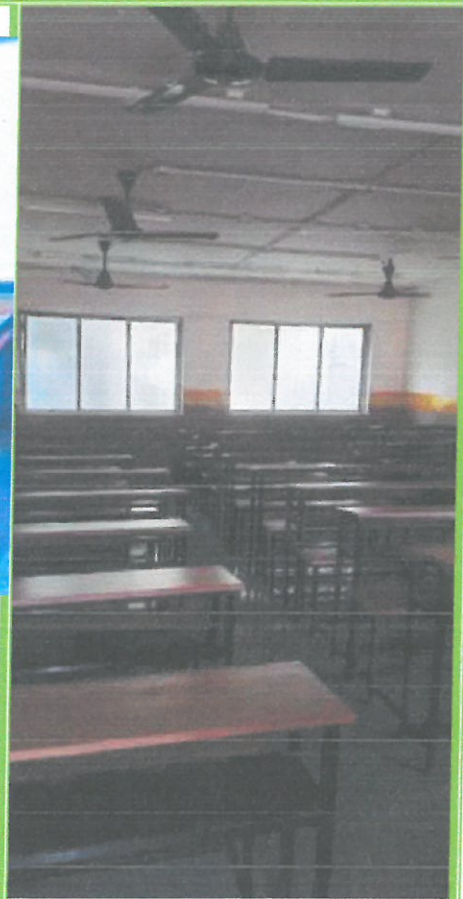


Restoration for sustainable future 08/03/22

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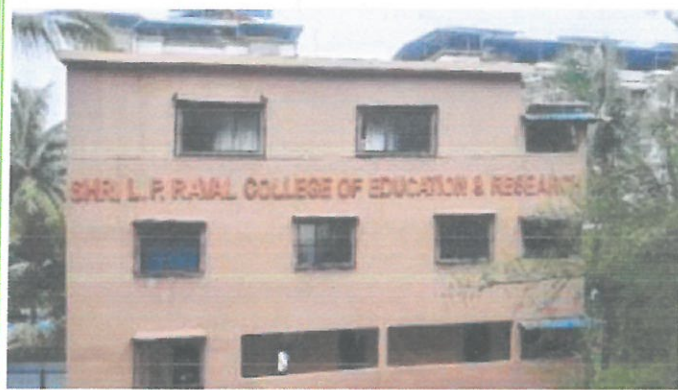


**'Good Sunlight and Ventilation**

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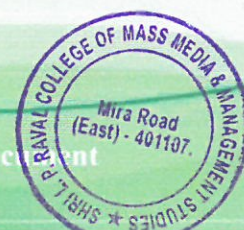
### Sunlight in Corridor



### Sunlight in Corridor

For Shri L.P. Raval College of Mass Media & Management Studies

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# GREEN IMPROVEMENT STEPS TAKEN

By

**Shri L.P. Raval College of Mass Media and  
Management Studies**

## OBSERVATIONS AND RECOMMENDATIONS

### GREEN CAMPUS AUDIT

#### OBSERVATIONS- STRONG POINTS

- College has implemented several green initiatives such as rainwater harvesting, solar PV system is under process for installation which help in promoting sustainability. College should develop monitoring mechanism and generate & maintain the performance records of the green infrastructure.
- a) Reduce, Reuse and re cycle of the products(At the time of disposal of library material)
  - b) Recycling beyond books i.e. .paper, aluminums, plastic, e-waste
  - c) College has 10+ trees, shrubs and potted plants present in the campus.
  - d) Good no. of trees around the College campus which maintain the CO2 sequencing.
  - e) Buildings are specifically designed with wide windows and wide passages to utilize sunlight, and for ventilation.
  - f) Donation of computers to NGO' store furbish and give it to needy people.
  - g) Solid waste generated in campus includes paper waste, E-waste, plastic waste, food waste from canteens and dry recyclable waste from gardening. Paper waste and E-waste are given to approve agencies for recycle/ disposal. Inventories & management processes of all waste (including food and dry recyclable waste) should be well documented.



Inside College



Inside College

For Shri L.P Raval College of Mass Media  
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### SUGGESTION:

- a) Indoor College campus greenery and plantation can be increased within the premises, which will improve beautification and green health of college campus.
- b) College can establish an 'Eco Club' and 'Garden Committee' in which students and staff arrange different environmental activities such as guest lectures, conferences, cleanliness drives etc.
- c) Water consumption can be reduced further through various conservation methods. Replacement of all old water faucets with water saving faucets such as prismatic taps, aerator taps, and jet sprays etc. can save water and help in minimizing the water footprint.
- d) Vertical gardening can be done using indoor plants. Hydroponic garden can be an option where in small space also plants can be planted. Drip irrigation system can be provided for plants.
- e) Signage regarding water conservation, reduction & segregation of plastic waste, reduction in food waste, waste segregation can be put up in kitchen, dining areas and near drinking water facilities to create awareness among staff and students.
- f) Digitization will help increase green environment.

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## ENVIRONMENT AUDIT

### OBSERVATIONS- STRONG POINTS

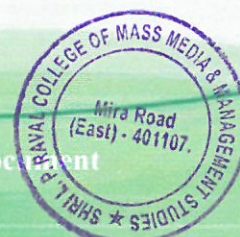
- a) Air emissions quality is good in college campus due to Green environment around the college.
- b) Wastewater management system is in place
- c) For e-waste management, college has tied-up with E-waste recycler/ disposer.
- d) College has e-book facility in the library.

### SUGGESTIONS:

- a) Environmental advisory committee could be formed. The discussions/ information sharing among different departments can generate lot of ideas and awareness on green issues.
- b) Set annual targets for Green Initiatives & monitor them closely. Create 'Green Champions'.
- c) Small composting facility can be provided for canteen to treat the biodegradable waste. Compost generated can be utilized for plants near compound wall.
- d) There should be waste segregation practices at source. Separate bins to be provided.
- e) Enhance recycling. This can be done by creating a group where students can recycle books, personal clothes and other material to needy students. This can be an initiative under green program.
- f) Training as well as awareness programs should be organized on segregation of biodegradable waste and recycling of waste. Efforts should be taken to inform students about recycling options and signs should be posted on appropriate bins indicating what could be dumped in each bin.
- g) Biodegradable waste from canteen can be used for composting. 1 tons of mixed waste can generate 60-70kg of compost.
- h) Plastic bottles to be handed over to PET recyclers.
- i) Dual flushing system can be installed for toilet flushing which saves considerable amount of water.
- j) Grey water/ sewage recycling system can be installed for flushing toilets. This will reduce the fresh water footprint.
- k) Water consumption can be reduced further through various conservation methods. Replacement of all old water faucets with water saving faucets such as prismatic taps, aerator taps, jet sprays etc. can save water and help in minimizing the water footprint.
- l) Use of colored bins with code to collect garbage.
- m) ISO 14001 (EMS) Environment Management System certification can be implemented for effective Environment management.

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## ENERGY AUDIT

### OBSERVATIONS- STRONG POINTS

- a) College is procuring LED lights and electrical equipment with star ratings and followed for purchasing green equipment, equipment star rating and eco-friendly materials.
- b) Use of energy saving bulbs(Compact Flore scent light/LED lights)
- c) Regular maintenance of electrical system
- d) Maximum Use of daylighting system
- e) Maximum Use of energy efficient equipment

### SUGGESTIONS:

- a) Solar energy system can be installed for energy conservation and to generate more renewable energy.
- b) Usage of light reflectors is recommended as there flexors can spread light to relatively large areas.
- c) If possible, computers should be switched off from main power connections.
- d) Notices/signage can be put up/displayed near switches and on notice boards, informing students and staff to switch of fall electrical when not in use.
- e) Install Solar Energy (Photo voltaic or Solar Panels)for sustainability
- f) Raise awareness:
- g) Encourage students to help in monitoring energy consumption & implement corrective actions.
- h) Integrate energy education in to classroom learning.
- i) Computerized monitoring of electrical system
- j) ISO 50001 (EnMS) Energy Management System certification can be implemented for Energy conservation & management, effectively.




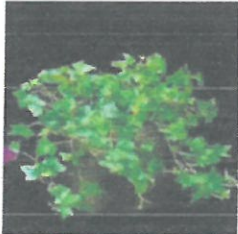
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## INDOORGARDENING:





Indoor plants are commonly used for their aesthetics benefits but they also have vital role reducing airborne pollution. The right choice of plants can be an excellent way of improving indoor air quality and general health. Local landscape contractor can be contacted for supply and rotation of these plants. Volatile organic compounds (VOCs) – VOCs are emitted by paints and lacquers, paint strippers, pesticides, office equipment such as copiers and printers, correction fluids and carbonless copy paper, graphics and craft materials including glues and adhesives, permanent markers, and photographic solutions etc.

Plants	VOC it removes	Indoor source of VOC's	Plant care
 <b>Aloe Vera</b>	Formaldehyde, Trichloroethylene and Benzene	Chemical based cleaners and paints	Easy to grow with enough sunlight
 <b>Bamboo Plant</b>	Formaldehyde, Trichloroethylene and Benzene	Paints, Plastics, Wood products etc.	Thrives under low light conditions as well as easy to maintain
 <b>Chinese Evergreen</b>	Benzene	Paints	Low maintenance plant that prefers low light conditions.
 <b>English Ivy</b>	Formaldehyde, Benzene, Air borne fecal matter particles	Wood, Paper products, Air borne fecal – matter particles from pests	Easy to maintain

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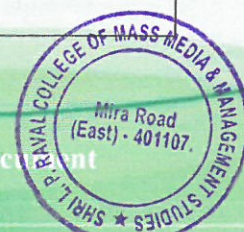
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	<p>Formaldehyde, Benzene and Trichloroethylene</p>	<p>Paints, Plastics, Wood products etc.</p>	<p>Medium to low light tolerant plant. Requires little water for growth.</p>
	<p>Formaldehyde, Cleanses air</p>	<p>Exhaust fumes, carpeting materials, paneling and furniture products made with particle board</p>	<p>Extremely easy to maintain under low to bright light conditions. Fast growing and grows well under Fluorescent light.</p>
	<p>Formaldehyde, benzene and trichloroethylene</p>	<p>Paints, Plastics, Wood products etc.</p>	<p>Medium to low light tolerant plant. Requires little water for growth.</p>
	<p>Formaldehyde and trichloroethylene</p>	<p>cooking fuels, wood products, facial tissues, personal care products and waxed papers</p>	<p>Drought resistant and Tolerates a variety Of light conditions. Hard to damage or kill.</p>
<p>Formaldehyde, benzene and trichloroethylene</p>	<p>Paints, Plastics, Wood products etc.</p>	<p>Relatively easy to maintain. Survives in low light conditions.</p>	

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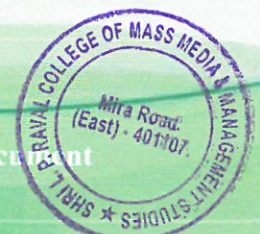
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 <p><b>Peace Lily</b></p>			
 <p><b>Red-edged Dracaena</b></p>	<p>Formaldehyde and trichloroethylene</p>	<p>cooking fuels, wood products, facial tissues, personal care products and waxed papers</p>	<p>Drought resistant and Tolerates a variety of light conditions. Hard to damage or kill.</p>
 <p><b>Spider Plant</b></p>	<p>Formaldehyde, benzene, carbon monoxide and xylene</p>	<p>cooking fuels, wood products, Printing</p>	<p>Easy to maintain under medium to bright light condition.</p>
 <p><b>Parlor Palm</b></p>	<p>Purifies indoor air</p>		<p>Easy to maintain</p>

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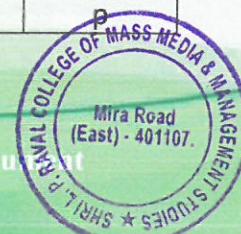
Green Audit Checklist		
<b>Good Daylight Design</b>		
Sr. No.	Design Feature	
1	Broad door opening	p
2	Clerestory/ High windows	p
3	Openings at the eastern and southern side	p
4	Rectangular building so that sunlight can reach all areas	p
5	Sunshade	-
6	Double or triple glazing on windows	-
7	Enough illumination	p
8	Light colored fabric curtain or blind for window covering	p
9	Operable/ operable windows	p
10	Ultraviolet (UV) filtering windows	-
11	Use of exterior louvers to control glare	-
12	Use of glass as facilitator of natural light	p
13	Use of insulated and tinted glass to filter heat gain	-
<b>Ventilation</b>		
Sr. No.	Design Feature	
1	Downdraft cooling system (a downward flow of air)	-
2	Ceiling height	p
3	Self-movement ventilators in the roof	-
4	Wide corridors	p
5	Operable windows	p
6	Use of exhaust fans	p
<b>Temperature and Acoustic Control</b>		
Sr. No.	Design Feature	
1	Double roof	-
2	Earth air tunnel ( cools air in summer and heat it in winter)	-
3	Green roof	-
4	Mud roof	-
5	Openings at the eastern and southern side	p
6	Roof with reflective tile/aluminum/asbestos	-
7	Sand stone cladding outside the walls	p
8	Special walls for temperature control(Thick/Double/cavity/fire/composite /green)	-
9	Use of cool roofing material (mineral wool, rock wool, vermiculite, foams, expanded polystyrene, extruded polystyrene etc.)	-

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10	Use of daylight design (Building is constructed in such a way that diffused sunlight allows light but not the heat )	p
11	Use of insulation material ( e.g. autoclaved aerated blocks, hollow blocks, Thermo Crete or higher R- value material)	-
12	Use of water bodies/fountain	-
13	Climbing creepers fitted to window in summer	-
14	Lime coating for cool roof	-
15	Retrofitting the existing roofs with cool roof technology	-
16	White wash on the roof	p
17	Use of landscaping as sound barrier	-
<b>Water Efficiency &amp; Wastewater Management</b>		
Sr. No.	Measures	
1	Aerators to water taps	-
2	Automatic toilet faucets	-
3	Drip irrigation (for plant watering system)	-
4	Dual flush toilet with cistern	-
5	Efficient plumbing system	p
6	Sewage treatment plant for sewage recycle	-
7	Rainwater harvesting	-
8	Regular maintenance for leakage free plumbing system	p
9	Use of low flow/flow control water equipment or gadget	-
10	Water free urinals (No flush urinals/Zero flush urinals/Water less urinals/air based flushing system these save water used in toilet)	-
<b>Energy Efficiency and On-site Energy Generation Mechanism</b>		
Sr. No.	Measures	
1	Avoid excessive lighting	p
2	Computerized monitoring of electrical system	-
3	Integrated energy saving design for natural cooling/heating	p
4	On-site energy generation	P
5	Photocell occupancy sensor for automatic light control	-
6	Regular maintenance of electrical system	p
7	Use of day lighting system	p
8	Use of energy efficient equipment	p
9	Use of energy saving bulbs (Compact florescent light/LED lights)	P
10	Solar panel	P
<b>Sustainable Material for Building and Interior</b>		
Sr. No.	Strategy adopted	
1	Use of biodegradable material	p
2	Use of locally sourced material	p

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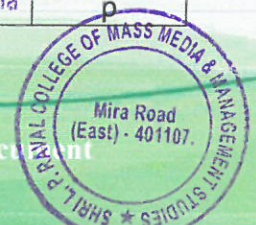




3	Use of material with low embedded energy(i.e. stabilized earth blocks, straw bales, stones, sand stone chips, fly ash)	p
4	Use of nontoxic recycled content material and furniture	p
5	Use of post-consumer recycled material	p
6	Use of salvaged (Discarded or refused) material	p
7	Use of material which can recycled at end of useful life	p
8	Use of material which is simple to install without dangerous adhesive	p
<b>Waste Management</b>		
Sr. No.	Measures	
1	Sale of books to its user for minimal charges	-
2	Sale of books to store or other library	-
3	Sale of weeded books to needy students	-
4	Send books and used papers to recycling organization	p
5	Avoid use of paper by going digital (Paper)	p
6	Lessen the margins while printing	-
7	Printing on both sides of paper	p
8	Reuse of printed paper/ envelopes	p
9	Segregation of dry and wet waste	-
10	Setting up recycling area/ composting area	-
11	Creation of specified junctions for collection of E-waste(E-waste)	-
12	Donation of computers to NGO's to refurbish and give it to needy people	p
13	Hand over to organization or recycler who knows proper disposal system	p
14	Implementation of any recycling project or program	-
15	Purchase of electronic products from company's which have after sales service for the disposal of product with buyback policy	p
16	Installation of bins to collect garbage	p
17	Outsourcing recycling of garbage to agency	-
18	Recreating in to new sustainable products	-
19	Use of colored bins with code to collect garbage	p
<b>Environmental Audit</b>		
Sr. No.	Type of audit	
1	Energy audit (includes energy consumption, thermal comfort, visual comfort)	p
2	Sound/ Noise audit (includes indoor noise level, outdoor noise level)	-
3	Water and waste audit (includes water quality, solid waste generation, solid waste disposal process)	-
<b>Universal Access and Efficient Operation and Maintenance of Building</b>		
Sr. No.	Design feature	
1	Easy access to the main entrance of the building	p
2	Elevator	p

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3	Preferred car park spaces for specially abled	p
4	Ramp/ stairs with handrails on at least one side	p
5	Restrooms (toilets) in common areas	p
6	Uniformity in floor level	p
7	Audio guidance for specially abled	-
8	Availability of wheel chair	-
9	Braille assistance for specially abled	-
10	Personalized services by staff for differently abled	p
11	Visual warning signage in common and exterior areas	-
12	Follow standard procedures for commissioning of electrical/plumbing system	-
13	Purchase of standardized and quality material for repair	p
14	Regular maintenance of building	p
15	Use of chemical free products for cleaning	-
16	User awareness program to minimize damage of property	p
<b>Green Program</b>		
<b>Sr. No.</b>	<b>Green program</b>	
1	Buying recycled material	p
2	Creation of "Green Team" in the institution/library	-
3	Green education i.e. to become leader in environmental awareness	-
4	College conduct graduate program by library science/Any other department e.g. "Eco-Friendliness: Changing our communities' one step at a time."	p
5	Outreach relationships with local groups interested in environmental concern and satisfy their information needs	p
6	Providing external membership to small and local libraries (MOU with other colleges, -internal collegiate library loan)	-
7	Recycling beyond books i.e. paper, aluminum, plastic, e-waste	-
8	Reduce, Reuse and recycle of the products (At the time of disposal of library material)	p
9	Regular purchase of books/ magazines related to sustainability	p
10	Selection of material content of which informs and assesses green practices (green computing, energy conservation, organic gardening etc.)	-
11	Contribute library information on sustainability resources to a campus publication, blog or website	-
12	Creation of topical online resource guide (on sustainability etc.)	p
13	Disseminating expert advice about sustainability to other colleges to make their own college greener	-
14	E Publishing reviews of new green resources in the newsletter or news	P
15	Digitization	p
16	E-archiving	P
17	E-resources : E books, Online Journals, membership of consortium	P
18	Subscription to databases	p

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THANK YOU!!!

GREEN INDIA CLEAN INDIA.

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**7.1.3. ENVIRONMENT AND ENERGY  
AUDIT CERTIFICATE**

For Shri L P Rayal College of Mass Media  
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Cert. No.: QC/EVA/21-22/053

Consultancy & Services

# Environment Audit Certificate

This is to certify that

Shri L. P. Raval Education Trust's

**SHRI L. P. RAVAL COLLEGE OF MASS MEDIA & MANAGEMENT STUDIES**

RAVAL NAGAR, NEAR NEW POST OFFICE, MIRA ROAD (E), THANE - 401107. MAHARASHTRA, INDIA.

has successfully undergone the "Environment Audit" during the period of FEB to APRIL, 2022 under our supervision and the efforts taken by the management and the faculty towards the Eco-friendly campus are highly appreciable.

Certificate issued on : 15 APRIL 2022



*Sanjay Kadam*

Project Head & Green Building Consultant  
For Shri L. P. Raval Education Trust's  
& Management Studies  
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An Environment and Energy Consultancy developing healthy and sustainable Environment



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