GREEN, ENERGY, & ENVIRONMENT AUDIT REPORT

R. V. Institute of Management, Bengaluru

PREPARED BY
NISARGA CONSULTANTS,
BELAGAVI
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Green, Energy, & Environment Audit Report

R.V. Institute of Management, Bengaluru.

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GREEN AUDIT CERTIFICATE

This Certificate is Presented To

R. V. Institute of Management, Bengaluru

Our team of Environmental Engineers have analyzed Green, Energy, and Environment practices followed by the Institution.

PRADEEP NAGAMALLI
B.E., M.TECH. (ENV. ENGG.)
NISARGA CONSULTANTS
DATE: 23.01.2023

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ENERGY AUDIT CERTIFICATE

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ENVIRONMENT AUDIT CERTIFICATE

This Certificate is Presented To

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Our team of Environmental Engineers have analyzed Environment-friendly practices followed by the Institution.

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Acknowledgement

We express our gratitude for calling upon us for this audit, mainly the Professor and Director Dr. Purushottam Bung, who was the driving force behind this work. We also thank the team members, mainly Smt. Dr. Anupama S. Malagi, Smt. Dr. Tamizharasi, Smt. Uma Sharma, Smt. Sowmya DS and others, who were ever helpful and supported us with all the inputs needed for this audit. We thank all the teaching, non-teaching and students for helping us in conducting this audit.

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About the Institute

RSST (Rashtreeya Sikshana Samithi Trust) to which RVIM belongs was established in 1940. It is recognized as RV Group of Institution (Rashtreeya Vidyalaya) is one of the fastest growing group of Institutions in the state of Karnataka. It has presence in virtually every field of academics and research. As on date, RV Group has under its ambit over 27 institutions, in which 20,000 plus students from all over India and abroad are pursuing their dream education, RV Engineering College, DAPM RV Dental College, RV School of Architecture, RV Aster Super Specialty Hospital, RV Teachers College, Bengaluru are some of the flagship Institutions under RV Group. We welcome you all to the world of RV Institute of Management, located in Jayanagar, the beautiful and central suburb of Silicon Valley of India, i.e Bangalore also known as IT capital of India. The Institute is well connected to city even through metro rail network Our dedicated and experienced faulty with industry background; best in class infrastructure; student focus; intense placements support and robust industry and institutional linkages (domestic and international) help us in accomplishing our mission and vision. We believe in holistic development of students as reflected in our motto “We prepare our students for life”. In May 2019 RVIM was re-accredited by NAAC with ‘A+’ Grade & is certified by QS I-Gauge, a global accreditation agency for E-Readiness in 2020 and Diamond rating in the subject rating category in 2022.

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Mission

To nurture Universal Thought Leaders by offering holistic management education fostering Business Intelligence, Health Care, Innovation and Entrepreneurship for Inclusive Growth and Sustainable Development

AND

To provide value added services to Business, Government and Society through Staff Empowerment, Joint Research and Collaborative Engagement.

Vision

To become a world-class management institute of eminence.

Goals

Constantly strive to achieve excellence across all fronts to remain an industry relevant and socially responsible Institution by following the principle and philosophy of Outcome Based Education.

Introduction to Green, Energy and Environment Audit

This audit assists in analyzing environmental practices implemented within the educational campuses, which will result in achieving sustainable goals. Green, Energy and Environment audit comprises of systematic identification, quantification, recording, reporting and analysis of elements of environmental conditions in the premises.

Need for Green, Energy and Environment Auditing

Green, energy, environment auditing is the mode in analyzing and determining whether the institutions' day to day activities are environmentally friendly and sustainable for future generations. Primarily, we are good and efficient users of resources available naturally. Subsequently, excess use of energy, water, have become habitual to everyone.

Green, energy and environment audit provides an approach to check whether

- Our processes are consuming more resources than required?
- Whether we are handling resources carefully?

Continuous monitoring of such processes regulates and gives an efficient way of natural resource utilization.

Recent issues such as drastic climatic changes and depletion of non-renewable resource are of greater concern. To combat such issues at institute/college level, it is needed to check the processes and change them into greener and cleaner one. Green audit also increases overall consciousness among the people working in the institution towards a sustainable environment.

Goals of Green, Energy and Environment Audit

Our team has conducted a green audit with specific goals, such as:

- Recognizing and documenting of green practices followed by the institute.
- Note strength and weakness in green practices presently followed.
- Analyze and suggest solution for the drawbacks identified.
- Evaluate facility of different types of waste management.

- Increase environmental awareness throughout campus.
- Inspire staff for optimized sustainable use of available resources.

Objectives of Green, Energy and Environment Audit

- To inspect the current practices, which can impact the environment.
- To recognize and analyze significant environmental issues.
- Establish and implement Environment Management in various departments.
- Continuous evaluation for betterment of performance in this regard.

Benefits of Green, Energy, Environment Audit to Educational Institutions

There are many advantages of green audit to an Educational Institution:

- It would help to protect the environment in and around the campus.
- Empower the organization to frame a better environmental performance.
- It portrays good image of institution through its clean and green campus.

Executive Summary

A Green Campus or an Eco-friendly Campus is a place where environmentally friendly practices and education combine to promote sustainable and eco-friendly practices in the campus. It is a campus which is sustainable because of its resource utilization and minimum waste discharge into the environment. Green, Energy and Environmental Audit is an assessment of the extent to which an organization is observing practices which minimize harm to the environment. It assesses the campus performance in complying with applicable environmental laws and regulations. This audit report comprises of observations and recommendations for improvement of environmental conditions in the campus. It mainly focuses on the environmental management plan in the campus with environmental factors like quality of water, ventilation, vegetation, waste management practices, consumption of energy, harmful radiations of the campus, etc.,

For this purpose, to assess the quality of the different environmental factors, samples were analyzed at different places in the campus, viz., water quality, light intensity, air quality, noise pollution and electro-magnetic radiation. The data which was collected were assorted, scrutinized, analyzed and documented. Campus related preliminary interviews with the concerned staff were conducted. Student interaction also was carried out for this purpose. A report based on all these studies with regards to an environmental management plan at the campus with recommendations for further improvement is prepared.

Objectives and Scope

The purpose of this audit was to note that the campus follows environmentally friendly approaches in its regular routine. The implementation of these methods is done in the campus, across all departments, administrative bodies and students and were analyzed.

Following issues were noted during our visit:

- Present conditions at the campus.
- Environmental education through systematic environmental management approach.
- Improving environmental standards.
- Benchmarking for environmental protection initiatives.
- Sustainable use of natural resource in the campus.

Based on the available data, sampling and information provided by the college staff and officials, this report has been prepared and recommendations for betterment of campus environment are provided.

Summary of Findings

The main findings of the audit show that, all the students are aware about the need for environmental protection at a general level. It was also observed that a number of best practices such as water conservation, sewage treatment in sewage treatment plant, waste management, cleanliness, waste segregation, plantation, etc., are followed in the campus.

However, on detailed review, it was observed that, the college is following green practices at various levels. But certain processes could benefit from further review in order to improve their efficiency, and consistency.

Infrastructure and college details

- The college has sufficient infrastructure for curricular and co-curricular activities.
- Rooms - Classrooms, auditorium, library, department rooms, staffrooms, computer labs, ladies' room etc.
- Sufficient reading materials for students.
- Administrative office, principal chamber, office room and department rooms are well located and ventilated.
- Underground and overhead water tanks.
- Computers (215 numbers) with internet facilities in office, principal chamber, department rooms and library with high-speed internet connectivity.
- The institution is in area of 0.7 acres and has a built-up area of 3766 sq. ft.
- Classrooms and staff rooms in the institute are 06 and 05 respectively.
- There are 03 laboratories with all the facilities and are well ventilated.
- There is a seminar hall with sufficient facilitates.
- The campus has a gym and sports room.
- The institute has Center for Peace and Yoga, Center for Wellness.
- RVIM has Centre for innovation, Entrepreneurship and Incubation.

Green Cover Details

Green Cover

Plants and trees are essential for any educational institution. Green cover makes the campus aesthetically pleasing and also helps in providing good environment for the students. Planting saplings and maintaining the same has to be done periodically.

Observations:

This campus has a green area with various plants and trees of different species. The Green club/Eco club unit of the college have been moving a step towards creating a greener campus with different programs and plantation activities. The campus is rich in biodiversity.

The institute is situated on rocky terrane, so plantation of saplings which grow into huge trees is not possible. Despite of this geological challenge, the staff and management have managed to have a good green cover in the campus. Indoor plants have been placed on corridors and scope for creepers have also been made.

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Greenery in the campus

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Biodiversity in the campus:

Biodiversity is the natural world around us, and the variety of all of the different kinds of organisms - the plants, animals, insects and microorganisms that live on our planet.

Observations:

RV Institute of Management has maintained a sufficient green cover in the campus. This helps in maintaining the biodiversity balance around. Many bird species can be spotted in the campus. Cats and other species can also be seen in the campus. Bees play an important role in pollination, flowers in the camps attract many species of bees.

Energy Management Details

Energy Management:

Energy management is an important aspect in institutions. Saving of electric power is a major part to minimize the greenhouse gas emissions to the environment. This can be achieved by using 5-star electrical appliances. Renewable energy can be harvested and be used in the campus.

Observations:

- Solar rooftop harvesting is being implemented in the campus. This is greater step towards clean and green energy for the campus.
- Solar panels have been installed on roof top. Energy generated from solar panels is used in college campus. Excess energy from solar panels is stored in the batteries and used. Details of the same are mentioned in the below table.
- LED bulbs have been used extensively in the campus. Migration to LED tube lights and bulbs has been done in order to save electrical energy.
- Labels, poster regarding energy saving can been put in the campus.
- Day light (Natural light) is the main source in the classrooms, staffrooms, library and so on. Infrastructure is very well planned to harness maximum natural light in all the places.

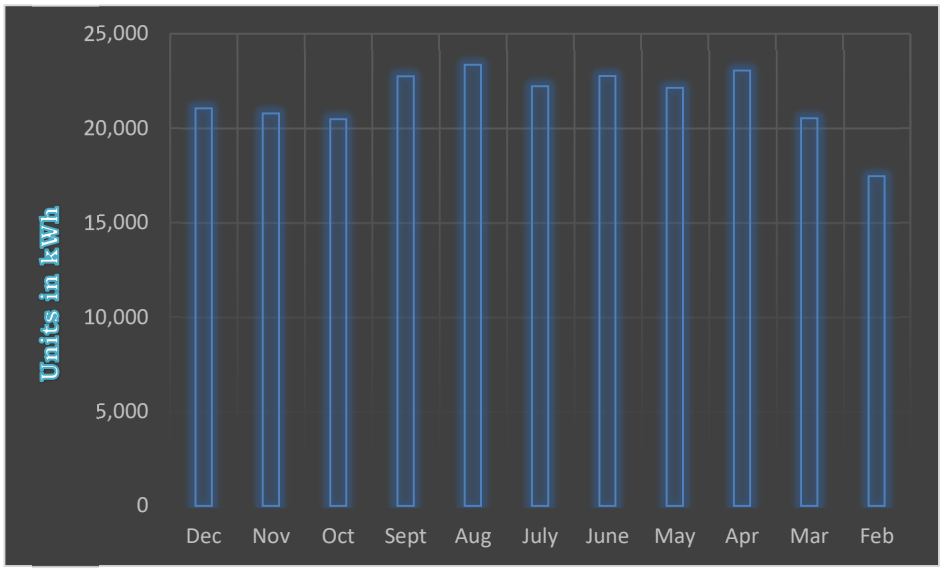
Recommendations:

- Best practices have already been implemented in the institution for optimum use of energy. More solar panels can be added to the roof for generation of renewable solar energy. Tube lights to be replaced using LED bulbs.

Electricity bill and Units consumed from Feb. 2022 to Dec. 2022.

Month	**Meter 1**	
	Units	**Amount**
Dec. 2022	21,062.50	2,11,073-00
Nov. 2022	20,773.50	2,22,583-00
Oct. 2022	20,478.50	2,20,772-00
Sept. 2022	22,754.50	2,43,718-00
Aug. 2022	23,358.00	2,40,873-00
July 2022	22,221.50	2,29,241-00
June 2022	22,775.00	2,33,859-00
May 2022	22,144.00	2,19,800-00
Apr. 2022	23,050.00	2,16,573-00
Mar. 2022	20,534.50	2,05,617-00
Feb. 2022	17,458.05	1,74,524-00

Energy usage patterns is the same throughout the year. Consumption is in the range of 17,000 units to 23,000 units a month.



Month wise electricity consumption in kWh

Details of Electrical and Electronic appliances

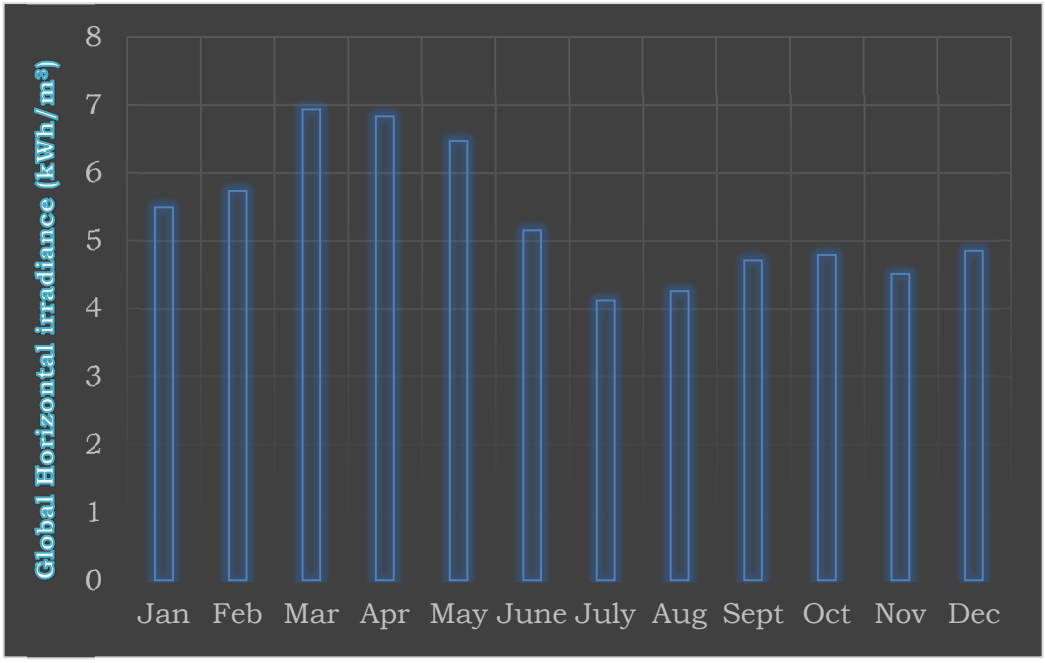
Sl. No.	Appliance	Numbers	Year of Purchase	5-star rating
1.	Computers (Desktops)	235	From 2020 onwards	80% of the appliances have 5-star energy savings rating
2.	Laptops	20	From	
3.	Printers	20	2020 onwards	
4.	Copying machines	3	From	
5.	Scanners	7	2020 onwards	
6.	Projectors	15	From	
7.	Refrigerators	1	2020 onwards	
8.	AC	16	From	
9.	Interactive smart boards in classrooms	10	2020 onwards	

Renewable energy generation using solar panels:

Solar power panels installed on RV institute of management roof top are of 5 kW capacity. These panels produce 5 units of electricity during its peak production i.e., during afternoons (12:00 noon to 1:30 pm). At Bengaluru these panels produce 1400 units (Approx.) per 1 kW capacity in one year (considering seasonal variations). So 5kW produces 5 X 1400 units = 7000 units of electricity every year.

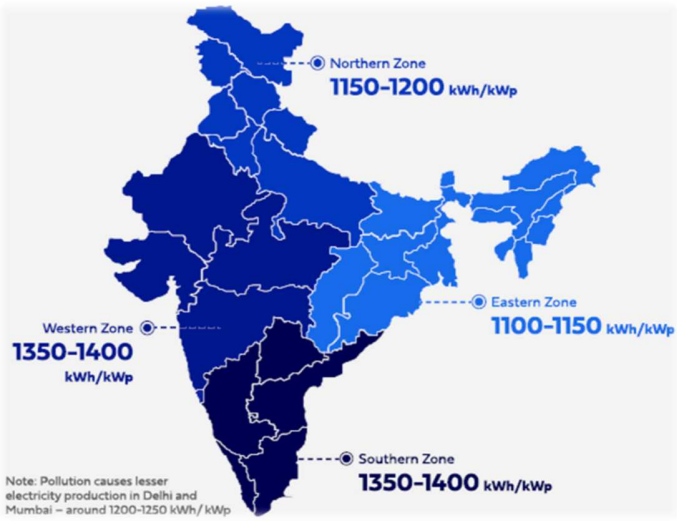
Basic information regarding power supply and its management

Sl. No.	Parameters	Response
1.	Source of electricity. BESCOM/Solar panels	BESCOM
2.	If Solar, Type of Solar system (On Grid/Off Grid/Hybrid)	Off Grid
3.	No. of Solar Panels	20
4.	Power generation capacity of Solar Panels	5 kW
5.	Energy utilization	Solar energy generated is being used in the campus

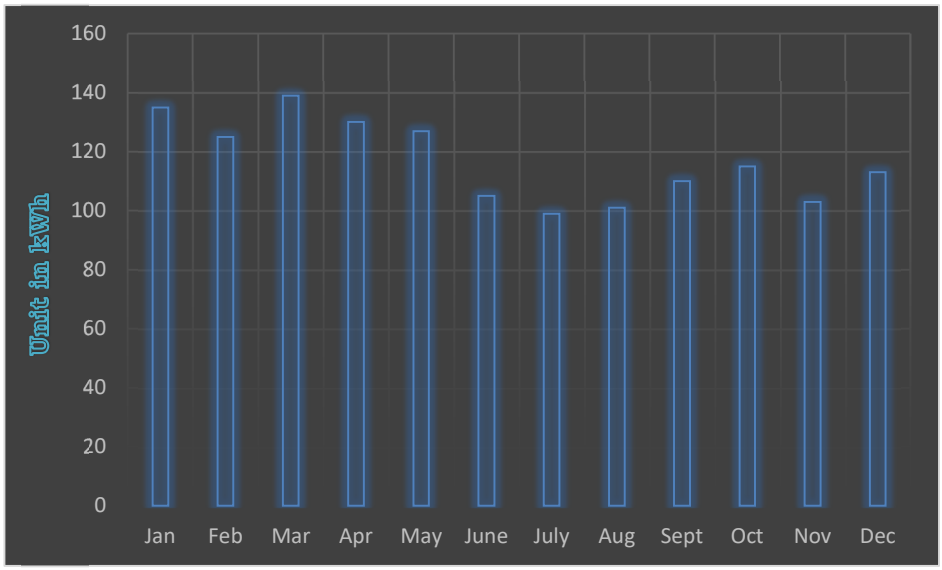


Monthly average daily solar radiation over Bengaluru, Karnataka

(Ref.: Solar Radiation Resource Assessment, Solar Radiation DPR, Karnataka Renewable Energy Devolvement Ltd.)



Average solar energy generation per year in different parts of India



Month wise solar power generation per kW in India (Approx.)

(Ref.: www.solarsquare.in)

Solar panels have been placed on the rooftop to convert solar energy into electrical energy

Diesel Generator (alternate source) during power cut

Posters about 'Save Energy' have been installed in classrooms

Environment Management Details

Water Management

Quality and Quantity of water is one of the most important parameters in a Green Campus. Water Quality and Quantity differs from place to place depending on the condition of the water source from which it is drawn. Presence of contaminants in the water can lead to health issues of the consumers. Basic monitoring of the quality of water is necessary from the health point of view of the campus occupants. Meticulous Water Management plan of the water available is also imperative for sustainable resource utilization.

Observation:

1. The main source of water for the campus is one bore well and city corporation water supply with sufficient water for the college throughout the year. The water from the borewell and underground water tanks are pumped to the overhead tank situated on the top floor of the building and then supplied. Drinking water from the Filter cum Cooler was tested for TDS, temperature and pH.

2. Rainwater harvesting has be implemented in the campus and water is stored in two underground tanks.

Source	Inlet			Outlet		
	TDS (ppm)	pH	Temperature (^{O}C)	TDS (ppm)	pH	Temperature (^{O}C)
1	150	7.5	28	40	7.3	24

Sl. No.	**Parameter**	**Response**
1.	Source of water for campus	BWSSB
2.	No. of open Wells/Borewells	--
3.	No. of motors used to lift water	3
4.	Horse power – Motor	5 HP
5.	Depth of open well –Total	--
6.	Depth of borewell –Total	--
7.	Water level open well	--
8.	Water level borewell	--
9.	Number of water tanks (underground)	1
10.	Capacity of underground water tank	100000 liters
11.	Number of water tanks (Overhead tank)	1
12.	Capacity of water tank (Overhead tank)	30000 liters
13.	Quantity of water pumped every day	30000 liters
14.	Any water wastage/why?	NA
15.	Water usage for gardening	Yes
16.	Waste water sources	Toilets
17.	Use of waste water	NA
18.	Fate of waste water from labs	STP/UGD
19.	Whether waste water from labs mixed with ground water	NA
20.	Any treatment for lab waste water	NA

21.	Whether any green methods practiced in labs	NA
22.	Rain water harvest available?	Yes
23.	No. of units and amount of Rain water harvested	2,00,000 liters capacity underground tanks
24.	Any leaky taps	No
25.	Amount of water lost per day	NA
26.	Any water management plan used?	Yes, RWH
27.	Any water saving techniques followed?	Posters regarding water saving have been put in the campus
28.	Are there any signs/posters reminding peoples to turn off the water?	Yes

Underground water storage tank

Overhead water storage tank

Underground water storage tank

Underground water storage tank
for Rainwater

Drinking water filters and coolers have been placed in every floor

Poster related to 'Clean water and sanitation' SDG 6

Fire extinguisher have been placed at every floor

Waste Management:

Anthropogenic activities generate waste, and it is the way these wastes are managed and disposed of, which can cause risks to the nature and to health. Waste generated causes pollution which is unpleasing and results in large amounts of litter which in turn cause environmental problems. Solid waste is generally classified into three categories: bio-degradable, non-biodegradable and hazardous waste.

Bio-degradable wastes include food wastes, canteen waste, wastes from toilets, etc.

Non-biodegradable wastes include what is usually thrown away in homes and schools such as plastic, tins and glass bottles, etc.,

Hazardous waste is waste that is likely to be a threat to health or the environment like chemicals from research labs, batteries, etc.,

Improper handling of these wastes such as dumping in pits or burning them, may cause harmful discharge of contaminants into soil and water supplies. Special attention should be given to the handling and management of such waste generated in the institutions.

Observations:

In this campus, the waste generated is managed as mentioned below:

Bio-degradable Waste:

- Bio-degradable waste (sewage) from toilets is connected to STP/UGD.
- Treated wastewater from STP (Sewage Treatment Plant) is used for gardening in the campus. The details of Sewage Treatment Plant are mentioned below.

Non-Bio-degradable Waste:

- Paper, plastics generated by the campus is collected by the waste collection vehicle of BBMP.

- Educational posters related to water conservation, waste minimization, waste segregation have been put in the campus to create awareness.
- E-Waste is sent to certified recycler.

The institute has made an MOU with E Sree Foundation, 767, malasadan, 10th C cross, West of Chord Road, 2nd stage, Bangalore for waste recycling. E Sree Foundation collects the waste from the institute and segregates the waste. The segregated waste is sent to various recycling units.

Recommendations:

Based on the observations made during our site visit, following recommendations have been made by us:

- Dry leaves from plants and trees can be composted in leaf composters.

Waste management poster by students

Sewage Treatment Plant

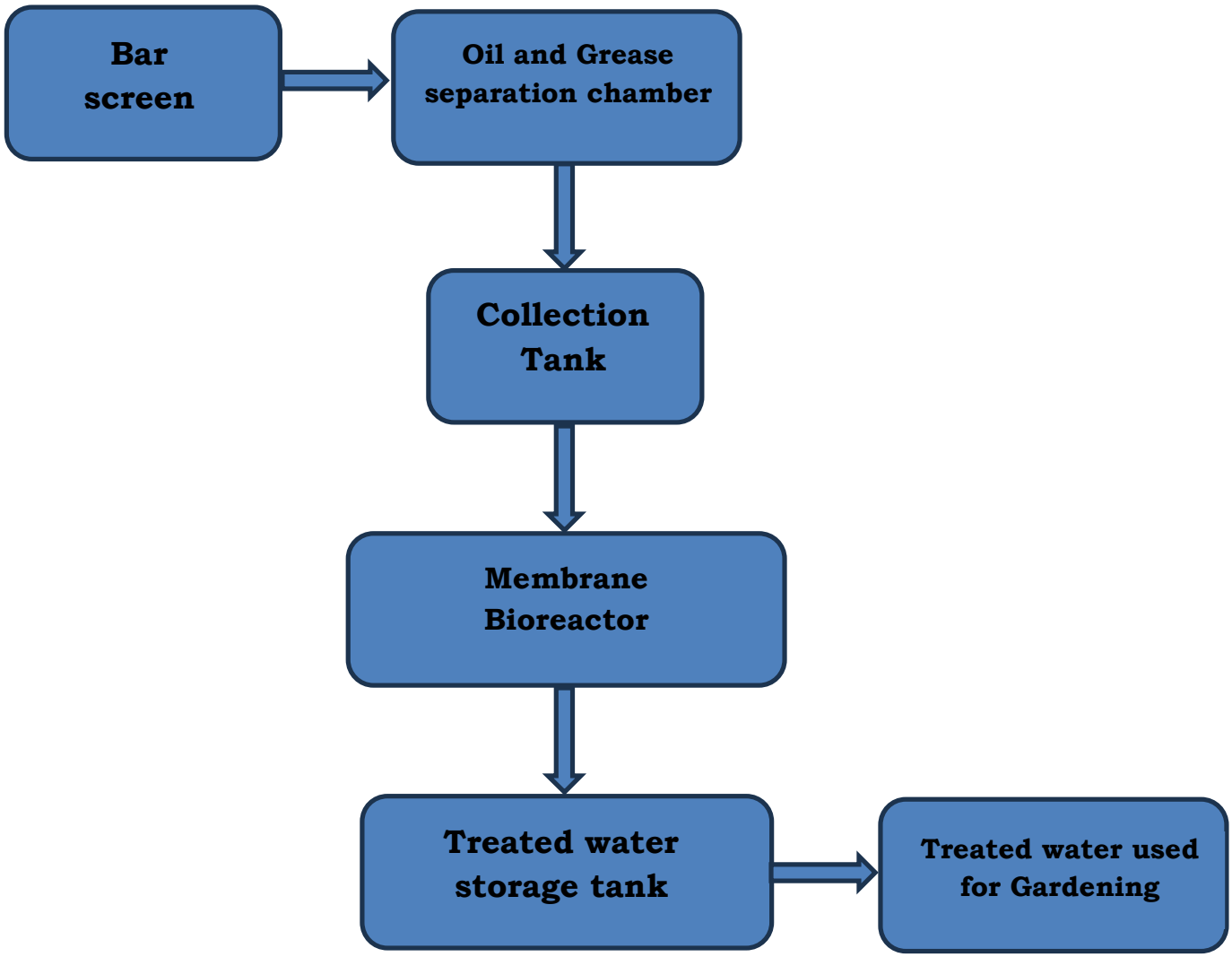
Waste water from washrooms, urinals, toilets, kitchen generally termed as sewage can be treated and be reused. Treated sewage can be used for gardening, flushing and so on. This helps in minimizing the use or fresh waster for flushing and gardening.

Observations:

Sewage treatment plant has been installed in the camps. The STP treats the waste water generated in the campus. Treated wastewater is used for gardening within the campus. STP has been installed and maintained by ENVIROWISERS Solutions Pvt. Ltd.

Sl. No.	Details	Remarks
1	Wastewater Source	Toilets, urinals
2	Use of waste water	Yes
3	Fate of waste water from labs	NA
4	Weather waste water from labs is mixed with other wastewater sources	NA
5	Any treatment for lab waste?	NA
6	Disposal of wastewater	STP/UGD
7	Use of treated wastewater from STP	Gardening
8	Capacity of STP in the campus	20 KLD

Treatment process involved in 20 KLD STP installed in the campus



Treatment units in STP

Sewage treatment plants involve unit operations and unit process. The role of each unit is as follows:

Bar Screens:

The bar screen chamber is used to separate plastics and other non-decomposable matter from incoming waste water to prevent clogging of pipelines and pumps thereby causing break-downs. The bar screen chamber consists of two screens i.e., a coarse screen followed by a fine screen which are inverted at an inclined angle.

Oil and Grease separation chambers:

Oil and grit chamber is used to separate the oil, grit and grease present in the water. It is an extension of the bar screen chamber but the tank bottom is deeper. It consists of a baffle placed in the middle of the tank. The baffle is constructed a few feet above the bottom of the tank. Oil and grease accumulated above the water on the inlet side of the tank and are to be periodically removed. The grit accumulates as sediment at the bottom of the tank and is removed by a pump which feeds it into the filter press.

Collection tank:

Sewage after primary treatment is to be sent to secondary and tertiary treatment. Further process are unit operations and sewage have to be stored in the collection tank before subjecting to biological treatment.

Membrane Bioreactor:

Membrane bioreactor (MBR) is a biological waste-water ultra filtration treatment system which is used to remove organic matter and is used to separate solids from the liquid, generating a bio sludge. Proving to be the most economic, and effective system for waste water treatment.

Treated wastewater storage tank:

Wastewater after biological treatment from MBR (Membrane Bioreactor) is stored in storage tank before use. Treated wastewater/sewage can be used for gardening and flushing.

Dust bins have been placed in the classrooms and corridors. Sperate bins have been placed for wet and dry waste.

Posters about avoiding single use plastics have been placed all over the campus.

RVIM has signed a MOU with ITC. Wellbeing out of waste is the main motto of the duo.

Posters about waste recycling, segregation of waste, avoiding single use plastics have been placed in the campus

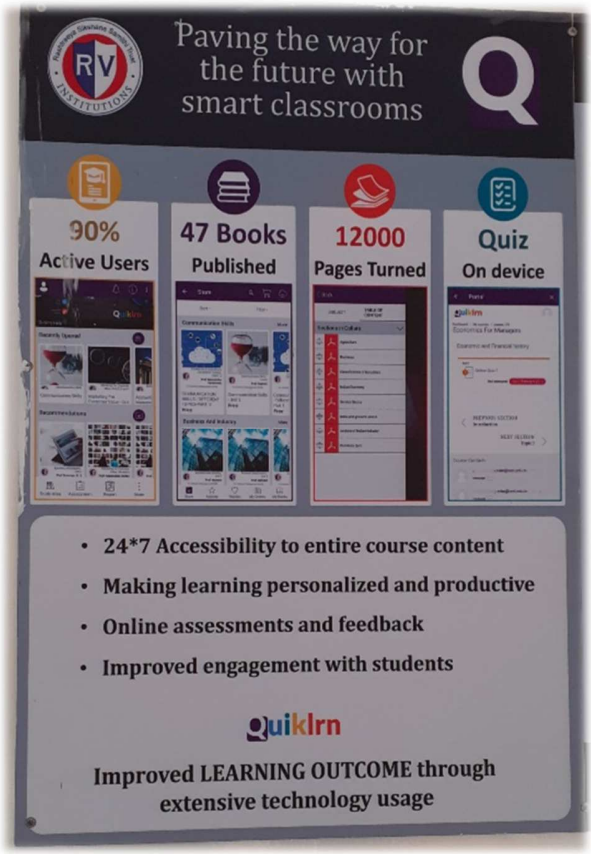
Reusable glass and plates.

Paper less campus:

Paper less campus is a great initiative to reduce carbon foot print of any institution. Digital access to course content helps in mitigating these issues.

Observations:

RV Institute of Management has come up with a solution to mitigate the above-mentioned issue. The campus has a unique digital platform, which houses all the course materials, quiz material is online, online assessments and feed back is digital. Details of the same can be seen below.



Course content has been made digital.

Air Quality

Air quality plays a major role in day-to-day life. People spend more time indoors. Indoor air quality is the air quality within and around buildings and structures. Indoor air quality is known to affect the health, comfort, and well-being of building occupants. Poor indoor air quality has been linked to sick building syndrome, reduced productivity, and impaired learning in schools and colleges.

Observations:

Particulate matter was measured in all the classrooms, staff rooms and library. It was observed that the concentrations of PM 1, PM 2.5 and PM 10 were found to be negligible at that instant.

Sl. No.	Room					
		PM 1	PM 2.5	PM 10	HCOH	TVOC
1	Administrative office	10	14	18	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
2	Dept. of General Management	11	15	20		
3	Conference Hall	10	15	21		
4	Dept. of Finance	11	13	22		
5	Director's Room	8	14	21		
6	Pantry	11	13	25		
7	Secretary to Director	11	13	20		
8	Board Room	9	14	20		
9	Stationary stores	10	15	18		
10	Dept. of IT and Management Centre for Social Responsibility	10	15	19		
11	Digital Library	7	15	21		
12	Centre for Media	10	14	22		

13	Centre for Wellness	11	15	21	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
14	Computer Lab (1)	12	14	18		
15	Computer Lab (2)	11	14	19		
16	Communication Lab	8	16	19		
17	System Service Centre	10	18	19		
18	Centre for Knowledge Resources	9	17	20		
19	RVIM Centre for Innovation, Entrepreneurship & Incubation	11	16	21		
20	Activity room/Workshop Hall	10	15	22		
21	Dept. of Human Resources	9	16	21		
22	Lecture Hall/Classroom	11	15	21		
23	Lecture Hall/Classroom	10	18	22		
24	Lecture Hall/Classroom	12	19	22		
25	Students discussion/Reading room	13	18	22		
26	First Aid cum Sick room and medical Counselling Centre	11	18	20		
27	MDP/FDP hall/Tutorial room	11	18	19		
28	IBM Innovation Centre for Education	10	19	19		
29	Girls common room	12	20	18		
30	Seminar Hall	11	19	18		
31	Seminar Hall	10	18	19		

32	Dept. of Marketing	11	18	19	<0.1 ppm	0.3 mg/m^3 to 0.5 mg/m^3
33	IQAC/RV Centre for Research and Consultancy	11	17	19		
34	Examination Control Room	10	16	18		
35	Lecture hall/Classroom	10	15	21		
36	Lecture hall/Classroom	11	14	18		
37	Lecture hall/Classroom	10	15	19		
38	Lecture hall/Classroom	11	14	19		
39	Centre for training and placement Centre for Alumni Relations Counselling Centre Anti-ragging cell	8	14	19		

The readings mentioned above are measured at that instant.

Light

The main part of the learning process is visual. The classroom is an arena for many activities, such as reading and writing, student or teacher presentations, tests, etc., hence, light plays a major role in classrooms. Well-lit classrooms are utmost essential in colleges. Working desks of the students require a minimum of light of 200 lux. Further, there may be certain zones that require specialized lighting. For example, the area in front of the board should have proper and separately switched presentation lighting.

Observations:

It was observed that all the classrooms are well lit. The light intensity was observed to be ranging from 250 lux to 350 lux.

Day light (Natural light) is the main source in the classrooms, staffrooms, library and so on. Infrastructure is very well planned to harness maximum natural light in all the places.

LED bulbs have been used extensively in the campus. Migration to LED tube lights and bulbs has been done in order to save electrical energy.

Sl. No.	Room	Light intensity in lux
1	Administrative office	260
2	Dept. of General Management	250
3	Conference Hall	280
4	Dept. of Finance	280
5	Director's Room	260
6	Pantry	268
7	Secretary to Director	300
8	Board Room	310
9	Stationary stores	295
10	Dept. of IT and Management Centre for Social Responsibility	300

11	Digital Library	350
12	Centre for Media	260
13	Centre for Wellness	350
14	Computer Lab (1)	250
15	Computer Lab (2)	280
16	Communication Lab	290
17	System Service Centre	300
18	Centre for Knowledge Resources	350
19	RVIM Centre for Innovation, Entrepreneurship & Incubation	350
20	Activity room/Workshop Hall	250
21	Dept. of Human Resources	300
22	Lecture Hall/Classroom	300
23	Lecture Hall/Classroom	330
24	Lecture Hall/Classroom	300
25	Students discussion/Reading room	330
26	First Aid cum Sick room and medical Counselling Centre	350
27	MDP/FDP hall/Tutorial room	330
28	IBM Innovation Centre for Education	350
29	Girls common room	350
30	Seminar Hall	200
31	Seminar Hall	300
32	Dept. of Marketing	300
33	IQAC/RV Centre for Research and Consultancy	350
34	Examination Control Room	500
35	Lecture hall/Classroom	330
36	Lecture hall/Classroom	300

37	Lecture hall/Classroom	330
38	Lecture hall/Classroom	350
39	Centre for training and placement Centre for Alumni Relations Counselling Centre Anti-ragging cell	268

The readings mentioned above are measured at that instant.

Noise

Noise is unwanted sound considered unpleasant, loud or disruptive to hearing. Unwanted sound is not preferred in any classroom. The Noise levels in the class room should be below 35 dB in an unoccupied classroom. Higher levels of noise in the classroom may distract the students.

Observations:

Noise levels were measured in the classrooms and were found to be in the range of 30 dB to 55 dB in an unoccupied classroom. The noise levels in classrooms with students were ranging about 55 dB to 72 dB.

Sl. No.	Room	Noise in decibel	
		Minimum	Maximum
1	Administrative office	35	55
2	Dept. of General Management	45	72
3	Conference Hall	50	60
4	Dept. of Finance	45	55
5	Director's Room	30	40
6	Pantry	45	55
7	Secretary to Director	45	60
8	Board Room	50	65
9	Stationary stores	45	60
10	Dept. of IT and Management Centre for Social Responsibility	45	70
11	Digital Library	50	65
12	Centre for Media	30	45
13	Centre for Wellness	35	45
14	Computer Lab (1)	30	45
15	Computer Lab (2)	35	50
16	Communication Lab	30	55
17	System Service Centre	40	55

18	Centre for Knowledge Resources	40	60
19	RVIM Centre for Innovation, Entrepreneurship & Incubation	45	65
20	Activity room/Workshop Hall	40	70
21	Dept. of Human Resources	35	70
22	Lecture Hall/Classroom	30	65
23	Lecture Hall/Classroom	35	60
24	Lecture Hall/Classroom	35	60
25	Students discussion/Reading room	40	60
26	First Aid cum Sick room and medical Counselling Centre	40	55
27	MDP/FDP hall/Tutorial room	30	55
28	IBM Innovation Centre for Education	40	60
29	Girls common room	45	65
30	Seminar Hall	45	60
31	Seminar Hall	30	50
32	Dept. of Marketing	35	65
33	IQAC/RV Centre for Research and Consultancy	35	60
34	Examination Control Room	25	40
35	Lecture hall/Classroom	30	70
36	Lecture hall/Classroom	45	65
37	Lecture hall/Classroom	45	45
38	Lecture hall/Classroom	50	45
39	Centre for training and placement Centre for Alumni Relations Counselling Centre Anti-ragging cell	45	45

The readings mentioned above are measured at that instant.

Electro Magnetic Radiations

Electromagnetic radiation (EMR) consists of waves of the electromagnetic (EM) field, propagating through space, carrying electromagnetic radiant energy. EMR is generated by electronic devices and constant exposure to EM radiations is not advisable.

Observations:

Electromagnetic radiations were measured in all the classrooms, staff rooms, and library. It was observed that the Electromagnetic radiations were zero in all these places.

H-Filed and E-Filed were found in server room however the room is isolated and is always closed.

Green, Energy, & Environment Audit Report
R.V. Institute of Management, Bengaluru.

Measurement of PM 1, PM 2.5, PM 10, Light intensity, Noise, EMR, HCOH, TVOC in classrooms

Nisarga Consultants, Belagavi.
www.nisargaconsultants.com

Green, Energy, & Environment Audit Report
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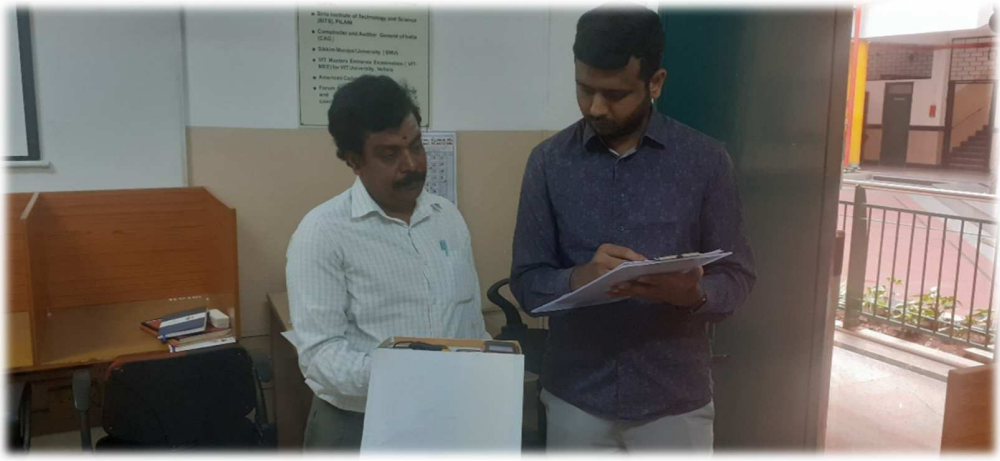

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Interaction with library staff during our visit regarding old books, waste paper recycling

Interaction with staff during our visit

Green Club/Eco Club Activities

Eco club wing of the college conduct various activities related to environment throughout the year.

Eco Club/Green Club team details

Sl. No.	Name	Designation
1.	Dr. Purushottam Bung	Professor & Director
2.	Uma Sharma	Staff
3.	Sowmya DS	Staff
4.	Dr. Vinay	Staff
5.	Anitha D'Silva	Staff
6.	Mehul V Bhaskar	Student Coordinator
7.	Srinidhi Kommula	Student Representative
8.	Namratha Gowda	Student Representative
9.	Vinit Shah	Student Representative
10.	Sowmya Hegde	Student Representative

Awareness poster by students

Field Visit to Swacchagraha Kalika Kendra

Centre for Social Responsibility organized a field visit of faculty and students to work on the Solid Waste Management process at the center in HSR layout on 5th November 22. Students were given hands-on practice on handling and managing solid waste from segregation of the waste to recycling process of biodegradable waste.

Door-To-Door Campaign on Creating Awareness Regarding Rainwater Harvesting

and

Visit to Visveshwaraiah Rainwater Harvesting Theme Park

Students and faculty participated in Public Awareness Building on Advantages of Rainwater Harvesting by conducting a road-show of 5 Kms - from college campus to the Visvesvariah Rainwater Harvesting theme park Bengaluru on 2nd August 22.

Visit to the rain water harvesting theme park was the second part of the awareness program. The road show for building public awareness was followed by the visit ot the park where the information center facilitator explained the

importance and methods of adopting rain water harvesting at all types of buildings.

Impact of the Program: Students took the pledge to stop misuse of water resources and also conveyed the strong message to the general public regarding the importance of conserving rain water. At the theme park through the visit they got firsthand information on the various methods of harnessing the rainwater the installations and models in the park were very informative about the working process of rain water systems that can be effectively used.

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