



JSS Academy of Higher Education & Research (JSS AHER),
Mysore, India

Compendium

SDG 6



SUSTAINABLE DEVELOPMENT GOAL 6

CLEAN WATER AND SANITATION

1. INTRODUCTION TO THE GOAL:

Every year millions of people, most of them children, die from diseases associated with inadequate water supply, sanitation, and hygiene.

Clean water is critical to survival, and its absence can impact the health, food security, and livelihoods of families across the world. Although our planet has sufficient fresh water to achieve a regular and clean water supply for all, bad economics and poor infrastructure can skew supply unfavourably. Drought afflicts some of the world's poorest countries, worsening hunger, and malnutrition. Floods and other water-related disasters account for 70% of all deaths related to natural disasters. Global goals and national priorities on reliable energy, economic growth, resilient infrastructure, sustainable industrialisation, consumption and production, and food security, are all inextricably linked to a sustainable supply of clean water. Hydropower is one of the most crucial and widely used renewable sources of energy and as of 2011, represented 16% of total electricity production worldwide.

The Sustainable Development Goals have committed the international community to expand international cooperation and capacity building on water and sanitation related activities and programmes, and to support local communities in improving water and sanitation management. Through Goal 6, the countries of the world have resolved to achieve universal access to safe drinking water and adequate sanitation and hygiene to all in the next fifteen years.

2. Efforts at glance:

- Systematic collection and disposal of solid waste from campus
- Provision of colour coded bins for waste disposal at various places in the campus
- Provision of safe water in the campus through Reverse Osmosis plant
- Small scale sewage disposal plant in the campus
- Scientific disposal of biomedical waste from hospital and health centres
- Received award for clean hospital and campus
- Systematic collection and disposal of solid waste from campus
- Provision of colour coded bins for waste disposal at various places in the campus
- Provision of safe water in the campus through Reverse Osmosis plant
- Rainwater harvesting

Our planet has provided us with an abundance of natural resources. But we have not utilized them responsibly and far beyond what our planet can provide. We must learn how to use and produce in sustainable ways that will reverse the harm that we have inflicted on the planet. It consists of Implement the 10-year framework of programmes on sustainable consumption and production, all countries acting, with developed countries taking the lead, considering the development and capabilities of developing countries. Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle. Promote public procurement practices that are sustainable, in accordance with national policies and priorities.

Achieving economic growth and sustainable development requires that we urgently reduce our ecological footprint by changing the way we produce and consume goods and resources. Agriculture is the biggest user of water worldwide, and irrigation now claims close to 70 percent of all freshwater for human use. The efficient management of our shared natural resources, and the way we dispose of toxic waste and pollutants, are important targets to achieve this goal. Encouraging industries, businesses, and consumers to recycle and reduce waste is equally important, as is supporting developing countries to move towards more sustainable patterns of consumption by 2030.

Our JSS AHER has its Green Policy which emphasizes on the following to be strictly followed in all its campuses.

- Maintenance of clean, green, and smart campus – waste segregation and planned disposal of waste through authorized agencies only
- Disposal of biomedical waste, Chemicals, and e-waste as per the norms of the Karnataka State Pollution control Board
- Energy conservation strategies – For e.g. use of CFL/LED lights and Solar heaters and Air source heat pumps in the hostels
- Plastic-free campuses
- Conservation of water resources - Rainwater harvesting and wastewater treatment
- Reducing paper communication
- The HEI actively organizes Swachh Bharat Abhiyan and creates awareness and consciousness amongst students.
- Provision for natural light in all its buildings

The Institution also has included a subject Environmental Sciences in all courses as stipulated by UGC and organizes Environment Day and Water Day. To meet the needs and sustainable management of fresh water, the rainwater harvesting, and utilization systems have been established in all the campuses of the university to aid towards the greater objectives of water management and conservation and increasing recharge of groundwater by capturing and storing rainwater, rainwater harvesting from rooftop run-offs and natural water bodies and the community development. The below mentioned models are established in the various buildings based on the size of the building and the extent and topography of the land.

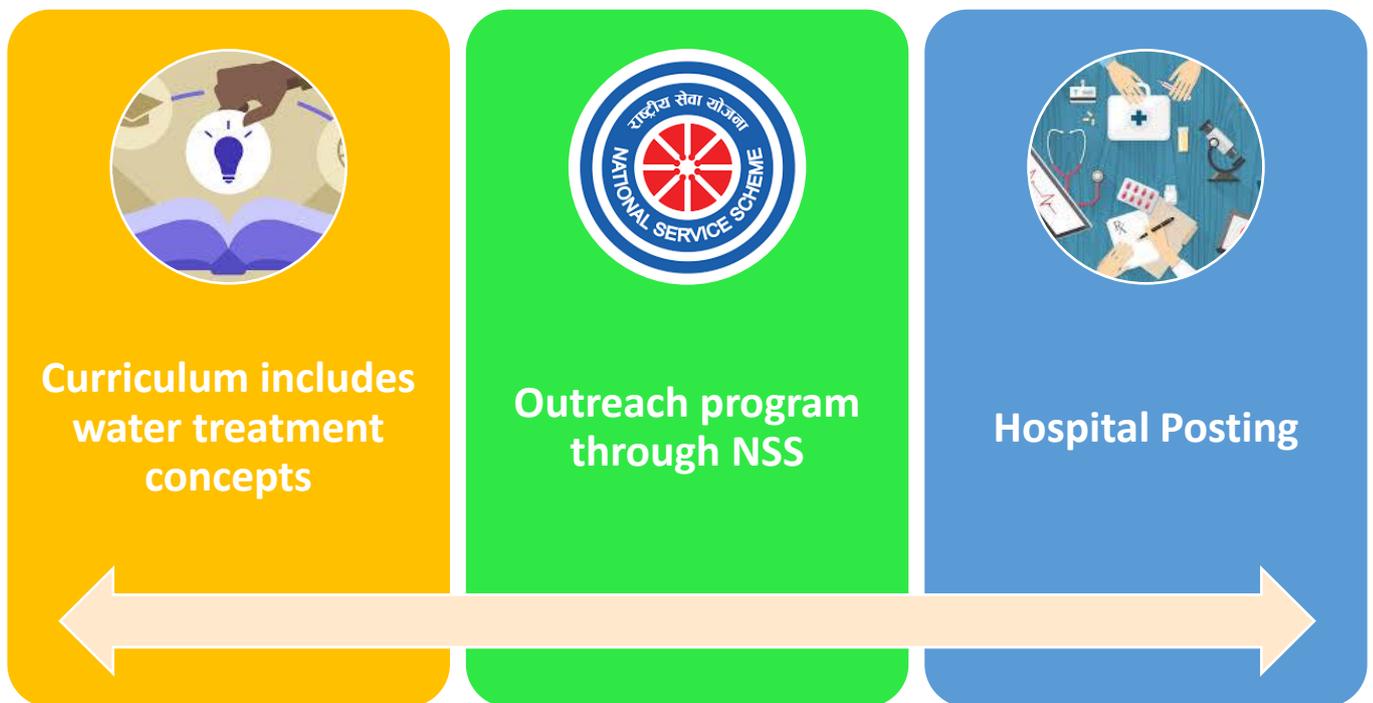
Simple roof water collection systems - Most of the rooftop rainwater harvesting has been completed by constructing five water storage structures with a storage capacity of 1000 m³.

- Land surface catchments – a simple way of collecting rainwater by retaining the flows (including flood flows) of small creeks and streams in small storage reservoirs (on surface or underground) created by low-cost dams
- Collection of storm water – The surface runoff collected in storm water ponds/reservoirs is subject to a wide variety of contaminants and every effort is made to keep these catchments clean.
- The University supports green practices in all its initiatives. It has well-defined policies for its sustainable green practices which include its energy conservation policy, water conservation policy, transport

policy, the SMART and Green campus policy and many such policies and practices that inculcate the importance of conserving the present for the future generations.

- Biomedical waste management in Hospital
- JSS AHER gives utmost importance to controlling and prevention of infection in patients, visitors, healthcare providers and community by adopting appropriate safety measures.
- JSS AHER has an organized Infection Control Committee and Infection Control Team which formulates policies and measures aimed at reducing and eliminating infection risks to patients, housekeeping staff, visitors and to the environment.
- JSS AHER and Hospital has an infection control and elimination programs and policies that are well documented.
- Infection control and elimination programs are performed regularly with yearly up gradations.
- JSS AHER has a well-coordinated Infection Control Committee that supervises all infection control and elimination programs

3. Brief of activities:



4. Activities conducted aligning to this goal

Academic Activities

Curriculum

The curriculum is designed with subjects where concepts of safety and risk management, sewage treatment and bio medical waste management and treatment are introduced to students. Here students practically learn the various concepts of waste management from an administrative point of view. Laws and regulations that are required for management of the above concepts are also inculcated to the students.

Teaching & Learning

The concept of hospital postings are based on work learning model where students are made to work in real time work environment to have hands on experience.

Students visit the sewage treatment plant and understand the process that takes place in the facility.

5. SOLID WASTE MANAGEMENT

WASTE MANAGEMENT:

- Bio – medical waste management service is being availed since May 2003 (Dental & Medical) from M/s. Shree Consultants.
- Segregation and collection of dry and wet garbage is in practice.
- Colour coded dustbins are provided across the campus.
- College has campus maintenance committee that takes care of greenery and sanitation within the college campus.



Waste collection bins placed at various locations in the campus

6. RAIN WATER HARVESTING / RO PLANT / WATER MANAGEMENT

- Rain water harvesting collection tank of 30,000 litres storage capacity.
- 10 no's of Ground water & bore well recharge pits and infiltration tank of about 15,000 litres capacity.
- STP of 25 KLD capacity by using SWR technology has been installed for treating of sewage & kitchen waste water of PG Guest Hostel & the treated water is using for the purpose gardening area developed surrounding the building.
- One tank of 10,000 litres capacity is made for re-use of RO rejected water for gardening purpose
- Water sprinklers are in place



Small scale sewage treatment plant



Facility for Reverse Osmosis (RO)



JSS Hospital was awarded cleanest hospital in Mysuru



Clean campus award

7. RAIN WATER HARVESTING / RO PLANT / WATER MANAGEMENT

- Rain water harvesting collection tank of 30,000 litres storage capacity.
- 5 no's of borewell and 8 RO unit's with 2 water softener units.
- Overhead tanks and sump pit are periodically cleaned every 6 months.
- Quality of water generated through bore well are periodically checked
- Wastewater generated in the campus is reused for gardening.
- Water sprinklers are installed.
- Colour coded dustbins are provided across the campus.



Waste collection bins placed at various locations in the campus



r Reverse Osmosis (RO) water in the campus

8. Clean water and sanitation:

The College has an excellent Infrastructure for academic and residential purpose with the Centralized gas facilities for laboratories and hostels. RO water facility in the academic and residential areas along with in the premises of hostels is available. The regular water testing is performed in Department of Pharmaceutical Biotechnology of our college and the report is generated and based on that the necessary action is taken if the samples are found contaminated. The campus also provides RO water facilities for staff and students.



RO water facilities



Reverse osmosis drinkable water system for staff and students

Adequate washrooms at each floor for both men and women separately with hygienic and sanitized facilities. The college ensures adequate and equitable sanitation and hygiene by monitoring through task forces periodically.

Rain harvesting system available at the campus as per state government norms to meet the scarcity and rejuvenate the ground water level.

About one third of the campus is construction free to maintain the eco systems by planting trees and maintaining wetlands

The students volunteer along with the local municipal officials participate in cleaning the water reservoirs in the reserved forest of tiger hills.

The demand for water has outpaced population growth, and half the world's population is already experiencing severe water scarcity at least one month a year. Access to water, sanitation and hygiene is a human right, yet billions are still faced with daily challenges accessing even the most basic of services. 3 in 10 people lack access to safely managed drinking water services. About 3 billion people lack access to basic sanitation services, such as toilets or latrines.

One in three people live without sanitation. This is causing unnecessary disease and death. Although huge strides have been made with access to clean drinking water, lack of sanitation is undermining these advances. If we provide affordable equipment and education in hygiene practices, we can stop such suffering and loss of life.

JSSAHER has taken all measures to provide safe and clean drinking water to all in the campus through installation of point-of-use as well as point-of-entry water treatment units. It has taken special attention to the needs of women and girls and those in vulnerable situations by providing adequate access to equitable sanitation and hygiene. JSSAHER has hosted various awareness and education programs on water and hygiene including sensitizing events for women.

It has initiated various innovation and technology developmental activities like development of drinking water quality management strategies, development of advanced and affordable water treatment techniques, designed low-cost and potential plant based cleaning agents, etc., to provide clean drinking water and hygiene to all.

9. Conservation of forests is a major source of rain which in turn is the source of drinking water

World Forest Day

World Forest Day was celebrated by Department of Water & Health, JSS Academy of Higher Education & Research, Mysuru at Bergy Village. On this occasion, Division of Environmental Sciences, DW&H - FLS, JSS AHER, Mysuru organized a special awareness and education campaign on Forest Conservation and Forest Fire at Bergy Village, Gundlupet Taluk, Chamarajanagar district, which is located next to Bandipur National Park. During the awareness program, students of Environmental Sciences created awareness and educated the villagers and children about the importance of quality environment and role of forest in managing health environment by conducting various activities like walkathon and active interactions with the inhabitants of Bergy village. In addition, students of Environmental sciences created awareness and educated them on impact of forest for our children and causes of anthropogenic forest fire through a street play.





Faculty members of Environment Science Division from DWH-FLS before Students staging a skit to create awareness on forest conservation flagging off the awareness campaign.

10. Environment program in NSS camp-

In association with the faculty of Life sciences ,the Department organised a seven days annual NSS camp at Majjigepura village, Srirangapatna Taluka, Mandya District.

During the camp a special rally was arranged where students with placards highlighted the importance and ways of preserving and safe guarding water resources available.

Students also interacted with the villagers to have an understating their perspective about water conservation.know their knowledge and also their local measures followed by the village people.

A guest lecture was delivered by **Dr. Shivaraju**, on **“Conservation of Ground water resources”**, through videos.



11. Cauvery calling to save Cauvery river-

ISHA Foundation launched ‘Rally for Rivers’, to conserve river Cauvery. The rally covered 28 districts of both Karnataka and Tamil Nadu. The initiative aimed to enable farmers to plant 242 crore saplings in the Cauvery basin as an attempt to increase the water levels.



Suttur Seer Sri Shivarathri Deshikendra Swamiji appreciated Sadhguru for his initiative to save River Cauvery. He also encouraged common man and youth to join the movement. In this campaign the MBA students of DHSMS participated in the bike rally along the river basin.

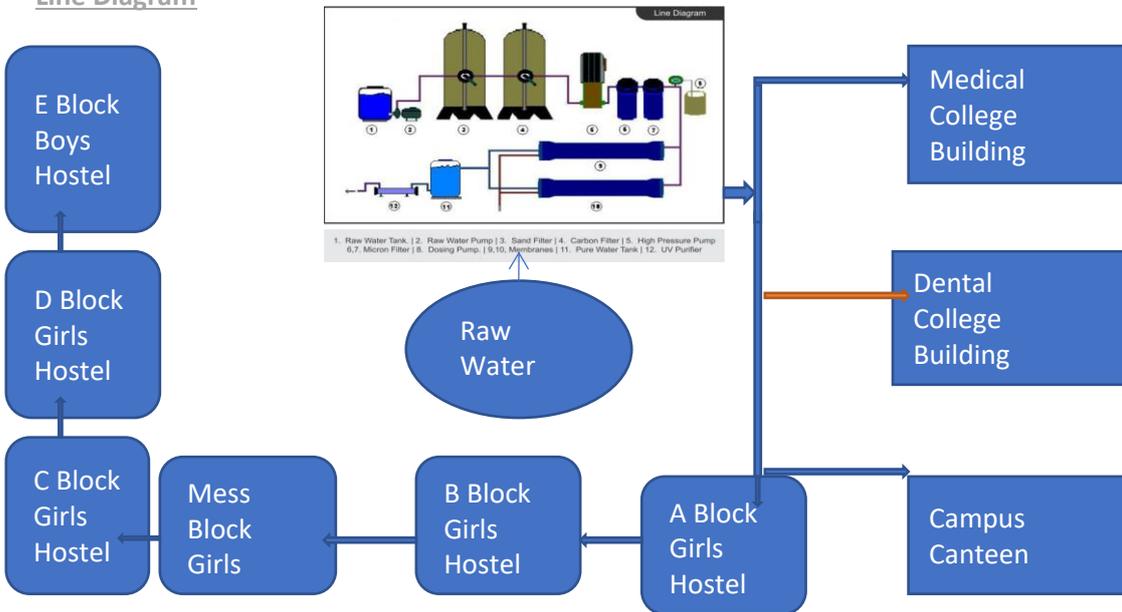
9.1 World Water Day

Division of Environmental Sciences, Department of Water & Health, JSS Academy of Higher Education & Research, Mysore organized an awareness program and walkathon at Bannimantap, Mysuru on occasion of **World Water Day** to sensitize the public and students on importance of water & hygiene, current issues and water conservation. In addition, the Division organized competitions like e-poster presentation on the theme of “Leaving No One Behind”, Environmental Captioning and Photography on the theme of “Life in landscape” among the students to create awareness on environment and water conservation. Sri. U. N. Ravikumar, Former Director, CART, Mysuru delivered a special lecture on “Water for Life” on this day and he enlightened the participants on water conservation and sustainable development through rain water harvesting. He also revealed the existing problems and alternative routes for overcoming water related problems. During the event, Dr. P.A. Kushalappa, Director Academics, JSS AHER, Dr. S. Balasubramanian, Director Research, JSS AHER, Dr. K.A. Raveesha , Head, Department of Water & Health and faculty members were present.

12. RO WATER SUPPLY FOR SAFE & CLEAN DRINKING WATER– CURRENT SCENARIO

An overview of the drinking water facility and the current situation of the RO plant installed in the campus help us to think how we can upgrade the RO plant to fulfil the RO water requirement for the entire campus. The present RO plant installed is not sufficient to fulfil the RO water requirement for the entire campus.

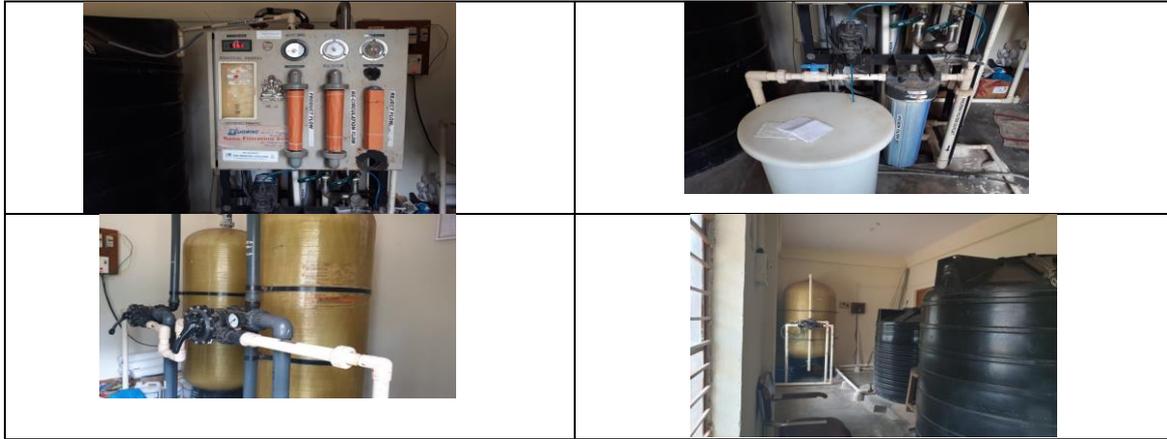
Line Diagram



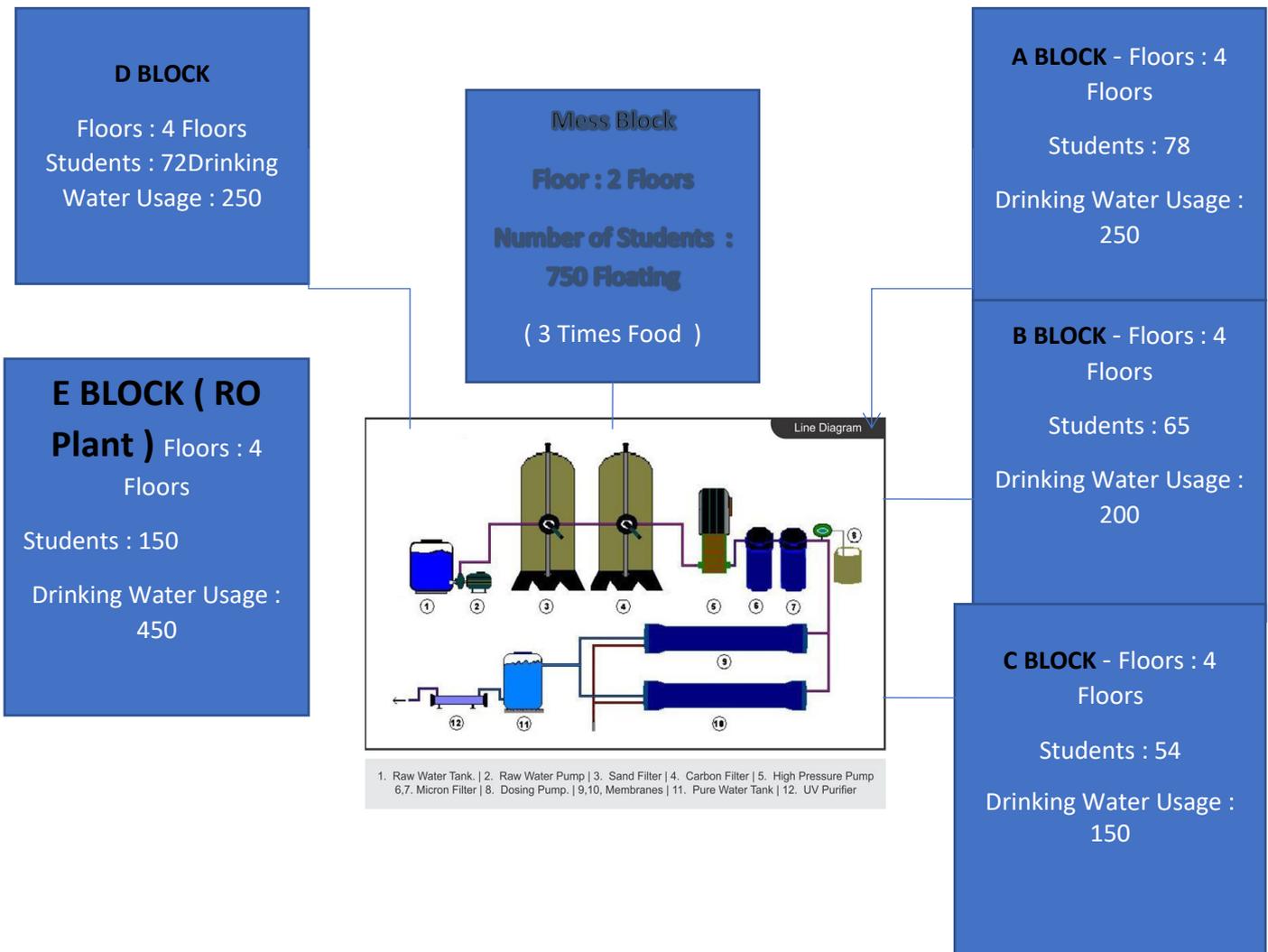
Inspection Report

- The entire campus has a one Commercial RO plant of capacity 3000 LPH.
- Plant needs to be upgraded to fulfil the present requirement of the drinking water.
- The product output of the plant is having only 40% of permeate water Only
- The RO water is been distributed in 2 different lines for the entire campus.
- Line 1: Dental Block, Campus Canteen Block & Medical Block.
- Line 2: Girls Hostel A , B , C , Mess Block , D Block Canteen and Continued to Boys Hostel E Block.
- The pump which is been used for the distribution of the RO water is a Cast Iron mould pump and impeller gets rusted inside the pump & discharge rust particles which gets mixed in the drinking water.
- The Pipeline laid to distribute the RO water should be in CPVC. But in Dental Block GI line has been laid which discharges high rust which is getting settled in the drinking water.
- All the Water which is been treated through RO plant is been Stored in a Syntex tank on the roof top of each and every building without the storage tank Lid and Instead they are using a wooden plank or a black stone slab to cover the same.
- Since it is Purified water it must be kept in a closed environment to avoid dust and microbes OR ELSE THERE IS NO POINT IN PURIFYING THE WATER.
- Rest of the Blocks distribution pipeline in Boys and Girls hostel is CPVC can be retained.
- The Storage water tank of the RO water should be in SS (Stainless Steel) but all the storage tanks which is been installed is Syntex tank.

- Using Syntax tank for drinking water storage is not suggested, because it reacts when sunlight falls on tank. Since all the tanks are kept in open terrace.
- All the storage tanks should be sheltered to avoid bio aerosol and dust.



Status of the RO Water Plant at the MCI



STATEMENT SHOWING THE DETILS OF DIFFERENT TYPES OF TREES EXISTING AT JSS AHER CAMPUS

ಕ್ರ.ಸಂ.	ವಿವಿಧ ಜಾತಿಯ ಮರಗಳ ಹೆಸರು	ಒಟ್ಟು ಸಂಖ್ಯೆ	10 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	10 ರಿಂದ 20 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	20 ರಿಂದ 50 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	50 ವರ್ಷ ಮೇಲ್ಪಟ್ಟ ಮರಗಳು	80 ರಿಂದ 100 ವರ್ಷದ ಮರಗಳು
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	ಮಡ್ಡಿ ಮರ	10		10			
2	ರಾಯಲ ಪಾಮ್	67		67			
3	ಬೆಟ್ಟದ ಹುಣಸೆ	25			25		
4	ಅರ್ಜುನ್ ಮರ	05	05				
5	ಕಾಡು ಬಾದಾಮಿ	07	07				
6	ಕ್ರಿಸ್‌ಮಸ್ ಮರ	04		04			
7	ಹೊಂಗೆ ಮರ	64	13	51			
8	ಸಿಲ್ವರ್ ಮರ	56	21		35		
9	ಬೇವಿನ ಮರ	52	17	23	12		
10	ಬಾಗೆ ಮರ	28		09	19		
11	ಮಹಾಗನಿ ಮರ	14	09	05			
12	ತೆಂಗಿನ ಮರ	70			70		
13	ಅಡಿಕೆ ಮರ	20	08	12			
14	ಕತ್ತಿಕಾಯಿ ಮರ	17		10	07		
15	ಆಲದ ಮರ	02	01				01
16	ಅತ್ತಿ ಮರ	02	01	01			
17	ರೈಟ್ಟು ಮರ	10		02	05	03	
18	ಬೆಪ್ಪಲ ಮರ	02		02			
19	ಬಸವನ ಪಾದ ಮರ	03	01	02			
20	ನಂದಿ ಮರ	02		02			
	Total c/f	460	83	200	173	03	01

..2..

..2..

ಕ್ರ. ಸಂ.	ವಿವಿಧ ಜಾತಿಯ ಮರಗಳ ಹೆಸರು	ಒಟ್ಟು ಸಂಖ್ಯೆ	10 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	10 ರಿಂದ 20 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	20 ರಿಂದ 50 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	50 ವರ್ಷ ಮೇಲ್ಪಟ್ಟ ಮರಗಳು	80 ರಿಂದ 100 ವರ್ಷದ ಮರಗಳು
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total b/f	460	83	200	173	03	01
21	ಸುಜಲ್ ಮರ	02			02		
22	ಅರಳಿ ಮರ	08			03	01	04
23	ಆಕಾಶ್ ಮಲ್ಲಿಗೆ	42		42			
24	ತಾರೆ ಮರ	01		01			
25	ದೇವಗಣಗಲೆ	32	32				
26	ಅಶೋಕ ಮರ	171	20	151			
27	ಜಾವ ಹತ್ತಿ ಮರ	01		01			
28	ಹಲಸಿನ ಮರ	07		03	04		
29	ಬಿಲ್ವಪತ್ರ ಮರ	03		03			
30	ಅಂಟವಾಳ ಮರ	01				01	
31	ಬುಗರಿ ಮರ	05		05			
32	ಬನ್ನಿ ಮರ	02			02		
33	ತಬ್ಬುಬಿಯ ಮರ	28	17	11			
34	ಹಳದಿ ಪಾದ್ರಿ	40	05	04	31		
35	ಹುಣಸೆ ಮರ	09			06	03	
36	ಯಾಮಿ ಮರ	02				02	
37	ಕ್ಯಾಸಿಯ ಮರ	06	05	01			
38	ಕಕ್ಕೆ ಮರ	09	09				
39	ನೀಲಿ ಪಾದ್ರಿ ಮರ	02		02			
40	ಹಾಲೆ ಮರ	01	01				
	Total c/f	832	172	424	221	10	05

..3..

..3..

ಕ್ರ. ಸಂ.	ವಿವಿಧ ಜಾತಿಯ ಮರಗಳ ಹೆಸರು	ಒಟ್ಟು ಸಂಖ್ಯೆ	10 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	10 ರಿಂದ 20 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	20 ರಿಂದ 50 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	50 ವರ್ಷ ಮೇಲ್ಪಟ್ಟ ಮರಗಳು	80 ರಿಂದ 100 ವರ್ಷದ ಮರಗಳು
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Total b/f	832	172	424	221	10	05
41	ಗಂಧದ ಮರ	08		08			
42	ಬಠಲ ಬ್ರಶ್	17	10	07			
43	ತಾವಸೆ ಮರ	04				04	
44	ರಬ್ಬರ್ ಮರ	04			04		
45	ಮಾಖಿನ ಮರ	06		06			
46	ಸಂಪಿಗೆ ಮರ	18	09	09			
47	ರುದ್ರಾಕ್ಷಿ ಮರ	02	02				
48	ಹೆಬ್ಬೆ ಬೇವು ಮರ	18		18			
49	ರಾಂಪಾಲ್ ಮರ	01		01			
50	ನೇರಳೆ ಮರ	02		02			
51	ಗೋಲ್ಡನ್ ಸ್ಟ್ರೆಪ್ಟಿನ್	35	35				
52	ಟೀಕ್	1450	100		1350		
	Grand Total	2397	328	475	1575	14	05

STATEMENT SHOWING THE DETILS OF DIFFERENT TYPES OF TREES EXISTING AT JSS COLLEGE OF PHARMACY CAMPUS, MYSURU (As on 05.09.2020)

ಕ್ರ.ಸಂ.	ವಿವಿಧ ಜಾತಿಯ ಮರಗಳ ಹೆಸರು	ಒಟ್ಟು ಸಂಖ್ಯೆ	10 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	10 ರಿಂದ 20 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	20 ರಿಂದ 50 ವರ್ಷಗಳ ಒಳಗಿನ ಮರಗಳು	50 ವರ್ಷ ಮೇಲ್ಪಟ್ಟ ಮರಗಳು	80 ರಿಂದ 100 ವರ್ಷದ ಮರಗಳು
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	ಹಲಸಿನ ಮರ	05	02	03			
2	ಮಾವಿನ ಮರ	04	02	02			
3	ಹುಣಸೆ ಮರ	03			03		
4	ನೇರಳೆ ಮರ	06		02	03	01	
5	ಟೀಕ್	18	15		03		
6	ಸೀಬೆ	02	02				
7	ನಾಗಲಿಂಗ ಪುಷ್ಪವರ	01		01			
8	ತೆಂಗಿನ ಮರ	40			28	12	
9	ಬೇವಿನ ಮರ	25	10	15			
10	ಅಶೋಕ ಮರ	05	05				
11	ಬಾಗೆ ಮರ	05	1	02	02		
12	ತುಜ್ಜುಮರ	02	02				
13	ಹೆಬ್ಬೆ ಬೇವು ಮರ	01	01				
14	ಛತ್ರ ಮರ	02		02			
15	ಕತ್ತಿಕಾಯಿ ಮರ	09	04	05			
16	ಬಿಲ್ವಪತ್ರ ಮರ	01		01			
17	ಮಡ್ಡಿ ಮರ	01	01				
18	ಬಿಳಿ ಮುತ್ತಿ ಮರ	03			03		
19	ಬಸವನ ಪಾದ ಮರ	01	01				
20	ರೆಡ್‌ಬರಲ ಬ್ರಶ್	16	08	08			
21	ಬೇಲದಕಾಯಿ ಮರ	03	01	02			
22	ನಾಗ ಸಂಪಿಗೆ	03	01	02			
23	ಮುತ್ತಿಗೆ ಮರ	03		03			

24	ಬೆಟ್ಟದ ನಲ್ಲಿಕಾಯಿ ಮರ	05	02	03			
25	ಬನ್ನಿ ಮರ	05	03	02			
26	ಅತ್ತಿ ಮರ	01		01			
27	ಹೆಲೋ ತುಜ್ಜು ಮರ	02		02			
28	ರಾಯಲ ಪಾಮ್	10		10			
	Total	182	61	66	42	13	

STATEMENT SHOWING THE DETILS OF DIFFERENT TYPES OF TREES EXISTING AT JSS AHER CAMPUS

Sl. No	Scientific name	Common name	Total no's	Uses
1	Morinda coreia	Indian mulberry ಮಡ್ಡಿ ಮರ	10	The bark is tonic, astringent, febrifuge and antiseptic.
2	Roystonea regia	Royal palm ರಾಯಲ ಪಾಮ್	67	Landscape usages
3	Pithecellobium dulce	Monkey pod ಬೆಟ್ಟದ ಹುಣಸೆ	25	Leaf decoction is taken for leprosy, jaundice and for proper growth of hairs. Plant paste is applied for poisonous bites.
4	Terminalia arjuna	White murdah ಅರ್ಜುನ್ ಮರ	05	Bark decoction is the best cardiac tonic and highly recommended for nervous debility. It also helps to reduce high blood pressure.
5	Terminalia catappa	Indian almond tree ಕಾಡು ಬಾದಾಮಿ	07	Bark powder is used as tooth powder in case of gum diseases, mouth ulcers and thrush in tongue. Leaves cooked with rice are eaten for gastritis.
6	Araucaria columnaris	Christmas tree ಕ್ರಿಸ್‌ಮಸ್ ಮರ	04	Landscape usages
7	Pongamia pinnata	Hongay oil tree ಹೊಂಗೆ ಮರ	64	Bark cooked with rice is eaten for three days in case of uterine diseases and conception failure. Bath with leaf decoction is recommended for arthritis and rheumatism.
8	Grevillea robusta	Southern silky oak -ಸಿಲ್ವರ್ ಮರ	56	Ornamental Fuel
9	Azadirachta indica	Neem ಬೇವಿನ ಮರ	52	Bark powder is recommended for septic wounds. Neem oil is applied for healing wounds and ulcers.
10	Albizia lebeck	East Indian walnut ಬಾಗೆ ಮರ	28	Seed decoction is given for piles and to stop purgation. Leaf and bark powder are applied for ulcers as well as snake bite.
11	Swietenia mahagoni	West Indian mahogany ಮಹಾಗನಿ ಮರ	14	Timber
12	Cocos nucifera	Coconut ತೆಂಗಿನ ಮರ	70	Tender coconut water is the antidote for indigestion caused by beaten rice. Paste of leaf ash fried with ghee is applied for old chronic ulcers and wounds
13	Areca catechu	Arecanut palm ಅಡಿಕೆ ಮರ	20	Decoction made of its root, Cocos nucifera root and salt are used as a gargle for toothache. Young fruit (ground) is given as a sour agent for thrush in tongue.
14	Delonix regia	Royal gulmohur ಕತ್ತಿಕಾಯಿ ಮರ	17	Antispasmodic and antirheumatic.

15	Ficus benghalensis	Banyan tree ಆಲದ ಮರ	02	White terminal portion of prop root ground in milk is given for burning sensation and is a general tonic. Paste prepared from its bark, castor oil, bee wax and turmeric are used as a quick healer for cracks in feet.
16	Ficus racemosa	Cluster fig ಅತ್ತಿ ಮರ	02	Fruit juice is used for gastritis. Bark paste is applied to ulcers or boils on body due to excessive heat.
17		ರೈಟ್ಟು ಮರ	10	
18	Wrightia tinctoria	Pala indigo ಬೆಪ್ಪಲ ಮರ	02	Leaf paste is filled into dental cavities for toothache and cavities. Leaf paste in coconut oil is applied for skin diseases.
19	Bauhinia purpurea	Butterfly tree ಬಸವನ ಪಾದ ಮರ	03	Stem bark decoction is given for diarrhoea, ulcers, swellings, leprosy, cough and menstrual irregularities
20	Lagerstroemia microcarpa	Virgin tree of the forest ನಂದಿ ಮರ	02	Leaf or young shoot tip paste is applied for cuts, wounds and for skin diseases
21	Albizia amara	Bitter albizzia ಸುಜಲ್ ಮರ	02	Medicinal and agroforestry
22	Ficus religiosa	Peepal tree ಅರಳಿ ಮರ	08	Young shoot tip ground and boiled in milk is given for dysentery and amoebiasis
23	Millingtonia hortensis	Indian cork tree ಆಕಾಶ್ ಮಲ್ಲಿಗೆ	42	Bark decoction is recommended internally for fever, cold, indigestion and diarrhoea
24	Acacia catechu	Red cutch ತಾರೆ ಮರ	01	Twig is used as toothbrush for strengthening teeth and gums. Bark decoction is used as a gargle for mouth ulcers
25	Plumeria rubra	Temple tree ದೇವಗಣಗಲೆ	32	Bark cooked with rice is taken for jaundice, venereal diseases and joint pain
26	Saraca asoca	Asoka tree ಅಶೋಕ ಮರ	171	Bark decoction is used for menstrual problems, dysentery, diarrhoea and as a blood purifier
27	Ficus benjamina	Golden fig ಜಾವ ಹತ್ತಿ ಮರ	01	Medicinal and agroforestry
28	Artocarpus heterophyllus	Jack fruit tree ಹಲಸಿನ ಮರ	07	Fruit is nutritive and it clears excretory system. Seeds are sweet with aphrodisiac action
29	Aegle marmelos	Bael fruit ಬಿಲ್ವಪತ್ರ ಮರ	03	Leaf juice is given to children suffering from stomach-ache. Leaf is eaten for diabetes.
30	Sapindus laurifolia	Soapnut ಅಂಟವಾಳ ಮರ	01	Folk medicine and insecticide
31	Thespesia populnea	Cork tree ಬುಗರಿ ಮರ	05	Fruit and bark decoction is much used to wash for septic wounds and ulcers
32	Prosopis cineraria	Indian mesoquite ಬನ್ನಿ ಮರ	02	Astringent and coolant
33		ತಬ್ಬುಬಿಯ ಮರ	28	

34	Tabebuia aurea	Caribbean trumpet-tree ಹಳದಿ ಪಾದಿ	40	Ornamental and timber
35	Tamarindus indica	Tamarind tree ಹುಣಸೆ ಮರ	09	Leaf decoction is poured over the body parts to relieve rheumatic pain. Steam of boiled fruit juice is given for pain.
36		ಯಾಒ ಮರ	02	
37	Cassia javanica	Pink shower ಕ್ಯಾಸಿಯ ಮರ	06	Widely planted as an ornamental. The wood is used for general construction, furniture and cabinet making
38	Cassia fistula	Indian laburnum ಕಕ್ಕೆ ಮರ	09	Bark paste is applied for skin diseases. Juice collected from heated fruit is taken to expel intestinal worms
39		ನೀಲಿ ಪಾದ್ರಿ ಮರ	02	
40	Alstonia scholaris	Indian devil tree ಹಾಲೆ ಮರ	01	Bark is used to treat asthma, heart disease, for chronic ulcers, and other ailments. Powder mixed with ginger is given to new mothers the first day after birthing to cleanse the blood and promote lactation.
41	Santalum album	Indian sandalwood ಗಂಧದ ಮರ	08	Sandalwood oil was used traditionally to treat skin diseases, acne, dysentery, gonorrhea,
42	Callistemon	Bottlebrush tree ಬರಲ ಬ್ರೂಶ್	17	Antibacterial and ornamental
43	Holoptelea integrifolia	Indian elm ತಾವನೆ ಮರ	04	Oil prepared from its bark is used for chronic ulcers. Bark paste is applied to the spot of pit viper bite and to arrest bleeding from wounds
44	Hevea brasiliensis	Rubber ರಬ್ಬರ್ ಮರ	04	Rubber and timber
45	Mangifera indica	Mango tree ಮಾವಿನ ಮರ	06	Bark cooked with rice is given for gastritis. Seed kernel ground in butter milk is applied on head for dandruff
46	Michalea cham paca	Golden champa ಸಂಪಿಗೆ ಮರ	18	Agroforestry, fuels and oil
47	Elaeocarpus ganitrus	Woodenbegar ರುದ್ರಾಕ್ಷಿ ಮರ	02	Ground seed is given to small children for increasing intellect and memory power. Wearing its seeds as necklace is said to control CNS.
48	Melia dubia	Malabar neem wood ಹೆಬ್ಬೆ ಬೇವು ಮರ	18	Leaf juice or extract is used both externally and internally as a haemostatic agent
49	Annona reticulata	Bullock's heart ರಾಂಪಾಲ್ ಮರ	01	Fruit is beneficial for tuberculosis. Dried fruit extract is given for dysentery
50	Syzygium cumini	Black plum ನೇರಳೆ ಮರ	02	Seed powder or bark decoction is much used for diabetes. Bark decoction is recommended for ulcers in the mouth, diabetes, and liver disorders
51		ಗೋಲ್ಡನ್ ಸ್ಟೆಪ್ಪಿನ್	35	
52	Tectona grandis	Teak ಟೀಕ್	1450	Fresh leaf and fruit extract are applied for mouth ulcers and itches in the body. Seed and flower decoctions are diuretic

Various trees available in JSS College of Pharmacy, Ooty campus

Sl No.	Name of the Tree	Nos. available
1.	Acacia	39
2.	Cypress	10
3.	Eucalyptus	21
4.	Jacaranda	06
5.	Silver Oak	17
6.	Pynes	01
7.	Plums	31
8.	Peaches	10
9.	Bottle Brush	19
10.	Photo Creeper	20
11.	Jungle Wood	75
TOTAL		249

Sd/-
PRINCIPAL

DEPARTMENT OF WATER AND HEALTH
(Faculty of Life Sciences)

and
DEPARTMENT OF HEALTH SYSTEM MANAGEMENT STUDIES
JSS Academy of Higher Education & Research
(Deemed to be University) Accredited "A+" Grade by NAAC



NSS Special Annual Camp at Majjigepura

Rally on Water usage and Environmental management- Dr. Raghu Ram Achar
Cleaning activities near the convention hall and temple premises of Majjigepura

“Water Resources”
Special lecture by Dr. Shivaraju HP, Assistant Professor, FLS, JSS AHER

Rally on Water usage and Environmental management.



Special lecture by Dr. Shivaraju HP, Assistant Professor, FLS, JSS AHER on water resource management



DEPARTMENT OF WATER AND HEALTH
(Faculty of Life Sciences)

and
DEPARTMENT OF HEALTH SYSTEM MANAGEMENT STUDIES
JSS Academy of Higher Education & Research
(Deemed to be University) Accredited "A+" Grade by NAAC



Free Medical Camp with Nutritional Assessment



Involvement of Villagers for the flag hoisting sessions.



Flag hoisting sessions



Waste Collections Drive



Plantation Drive



Shibira Jyoti Preparations



Volunteers taking oath for Swach Bharath and National Integrity

DEPARTMENT OF WATER AND HEALTH
(Faculty of Life Sciences)

and
DEPARTMENT OF HEALTH SYSTEM MANAGEMENT STUDIES
JSS Academy of Higher Education & Research
(Deemed to be University) Accredited "A+" Grade by NAAC



Shibira Jyoti Event

DEPARTMENT OF WATER AND HEALTH
(Faculty of Life Sciences)

and
DEPARTMENT OF HEALTH SYSTEM MANAGEMENT STUDIES
JSS Academy of Higher Education & Research
(Deemed to be University) Accredited "A+" Grade by NAAC



Valedictory Function



Group Photo with the best volunteers of the camp.



Group Picture of the Volunteers at Majjigepura


NSS Programme Officer
NSS Programme Officer
Department of Water and Health
Faculty of Life Sciences
Nagadguru Sri Shivarathreeswara University
MYSURU-570 015


HEAD
HEAD
Dept. of Water & Health-Faculty of Life Sciences
JSS Academy of Higher Education & Research
Sri Shivarathreeswara Nagar, Mysuru-570 015

Awareness rally at Srirangapatna about Environment.



Awareness rally at Srirangapatna about Environment. Date



Cleaning Kaveri at Srirangapatna during Save Kaveri Programme



Awareness rally during Save Kaveri Campaign at Srirangapatna



Awareness rally during Save Kaveri Campaign at Srirangapatna

JSS ACADEMY OF HIGHER EDUCATION & RESEARCH

Energy Conservation & Recycling Policy

Introduction

JSS Academy of Higher Education & Research (JSSAHER) is conscious of its responsibility and role in materialising its green policy using renewable energy, management of its water resources, and disposal of waste.

Purpose

In order to minimize energy usage, improve the efficiency of all energy/ resources (natural resources, water, electricity) consuming systems and equipment, and improve the environment in all facilities, JSS Academy of Higher Education & Research has adopted an energy / resources conservation and recycling policy.

Definitions

- Energy conservation : Energy conservation is a practice of decreasing the quantity of energy used and achieved through efficient energy use.
- Recycle: Recycle is a process of collecting and reprocessing materials that would typically be considered waste.

Policy

Conservation of energy and natural resources and recycling process is an integral part of JSS Academy of Higher Education & Research (JSSAHER) facilities' design and usage. The JSSAHER employs a variety of energy conservation, recycling, and other techniques to lessen the consumption of resources and achieve the lowest feasible life cycle costs. However, occupant health, safety, comfort, and program requirements shall always be the primary concerns. Energy conservation measures will be achieved by using the most cost-effective, energy-efficient approach with consideration given for flexibility of use and future remodeling convenience. Recycling efforts are encouraged at the Institution/department level.

Responsibilities

- All faculty, staff, students, design consultants, and construction contractors must observe energy and resource conservation measures employed by the campus.
- The Campus Facilities Maintenance & Management Authority- Deputy Registrar shall be the principal coordinator of all design disciplines, which includes responsibility for the implementation of this policy.
- Constituent Colleges & Departments shall be responsible for internal energy conservation, recycling efforts.

Related Policies

The energy conservation and recycling policy of JSS Academy of Higher Education & Research (JSSAHER) supports:

- Smart Campus Policy of JSSAHER
- The Swachh Bharat Mission (Urban) guidelines- Government of India.
- National conservation strategy and policy statement on environment and development- Government of India.

Energy conservation measures:

Light Bulb Replacement

- It is estimated that replacing traditional incandescent bulbs with CFLs/LED can cut lighting costs by up to 75%. JSSAHER, Constituent Colleges & Departments shall exchange such traditional incandescent bulbs across campus with CFLs/LED in a phased manner. Thus 75 % of the bulbs shall be changed with CFLs/LEDs by 2017.
- Sticker Reminders as part of their 'Energy Awareness Campaign' shall be placed on switch boards to remind everyone to conserve energy by turning off the lights.
- Small pamphlets emphasizing the importance of energy saving shall be prepared and circulated to all the staff and students of the college.
- Solar water heaters installed in colleges and hostels and especially for cooking, solar energy is utilized in the hostels and in guest houses. Step shall be taken to replace use of LPG completely with solar energy by 2020.

Water conservation

- Awareness program shall be held in campus once in 3 months for Sensitizing the staff and students
- The students in hostels shall be sensitized about water conservation in their orientation meetings.
- Printed stickers / labels with the slogan 'Save Water' to be fixed in strategic places of the college and hostels.
- Reducing car washing and the vehicles on the campus shall be washed based on the real needs rather than regular washing.
- The gardens shall be irrigated only with sprinklers and drip irrigation systems to save the wastage of water in plantations.
- All the existing flushes in the toilets to be changed into dual flush system in a phased manner.
- Sticker Reminders as part of the 'Energy Awareness Campaign' shall be placed near taps to

remind everyone to conserve water by reducing wastage and closing the tap.

Recycle

- Green wastes shall be composted and reused as composts manure.
- All the waste bins to be replaced with dual bins with tag and pictorial signs “biodegradable waste” & nondegradable waste”.
- The biowaste disposal shall be only through Government approved disposal service contracts.

Rainwater harvest

To meet the needs and sustainable management of fresh water, the rainwater harvesting and utilisation systems have been established in all the campuses of the JSSAHER to aid towards the greater objectives of water management and conservation and increasing recharge of groundwater by capturing and storing rainwater, rainwater harvesting from rooftop run-offs and natural waterbodies and the community development. The below-mentioned models are established in the various buildings based on the size of the building and the extent and topography of the land.

The systems include –

- Simple roof water collection systems - Most of the rooftop rainwater harvesting has been completed by constructing five water storage structures with a storage capacity of 1000 m³.
- Land surface catchments – a simple way of collecting rainwater by retaining the flows (including flood flows) of small creeks and streams in small storage reservoirs (on surface or underground) created by low-cost dams
- Collection of storm water – The surface runoff collected in stormwater ponds/reservoirs is subject to a wide variety of contaminants and every effort is made to keep these catchments clean

JSSAHER and the constituent colleges shall continue to establish a combination of the above techniques to have meet the groundwater needs.

Response of JSSAHER towards conservation of energy:

The staff and students of JSSAHER shall be aware of the following response of JSSAHER towards conservation of energy to support its activities:

- Green Policy to be strictly followed in all its campuses
- Maintenance of clean, green and smart campus – waste segregation and planned disposal of waste through authorized agencies only
- Disposal of biomedical waste, Chemicals, and e-waste as per the norms of the Government
- Pollution control Board
- No Smoking campuses
- Energy conservation strategies – use of CFL/LED lights
- Solar heaters and Air source heat
- Pumps in the hostels
- Plastic-free campuses
- Conservation of water resources - Rainwater harvesting and wastewater treatment
- Reducing paper communication
- Organizing Swachh Bharat Abhiyan and creates awareness and consciousness amongst students.

- Including a subject “Environmental Sciences” in all courses
- Organizing Environment Day and Water Day.
- Preserving traditional knowledge and herbal medicine. Established medicinal plants garden and promotes eco-friendly cultivation practices by organizing medicinal plants exhibition.

Responsible Office

Office of the Vice Chancellor, Registrar & Deputy Registrar
Office of Principal, Administrative Officer & Warden.

Approval & Implementation of the Policy

This policy has been approved by the Registrar and shall be reviewed annually by Deputy Registrar and shall ensure that continued progress is being made. The Campus maintenance committee shall advise on the sustainability agenda related conservation of energy.

The policy Effective Date

The energy conservation and recycling policy of JSS Academy of Higher Education & Research shall be effective from 1st December 2016. The revision of policy shall take place once in two years and (or) as per the suggestions made by campus maintenance committee on the sustainability agenda on conservation of energy.

Related Documents

1. Approval for bio waste disposal and E waste disposal at JSSAHER by Government approved disposal service contract.
2. Memorandum of understanding between service provider and JSSAHER.
3. Membership certificate from society for biomedical waste management.
4. Rainwater harvest plan.
5. Standard operating procedure for waste disposal

All the documents related to agreements made with service providers shall be maintained in the office of Registrar and Deputy Registrar, JSS Academy of Higher Education & Research, Mysuru.

Questions related to the daily operational interpretation of this policy shall be directed to Registrar and Deputy Registrar, JSS Academy of Higher Education & Research, Mysuru.

The Vice Chancellor, Registrar and Deputy Registrar of JSSAHER shall be the officials responsible for the interpretation and administration of this policy.

ENVIRONMENTAL WALKATHON AND AWARENESS PROGRAMME ORGANIZED BY DIVISION OF ENVIRONMENTAL SCIENCES, DEPARTMENT OF WATER & HEALTH JSS ACADEMY OF HIGHER EDUCATION & RESEARCH



Division of Environmental Science, Department of Water & Health-Faculty of Natural Sciences, JSS Academy of Higher Education and Research, Mysuru was organized an environmental walkathon and awareness programme for the Conservation of Environment and Save Cauvery in association of Environmental Management Planning and Research Institute (EMPRI), Govt. of Karnataka, Bengaluru at Shrirangapatna. Dr. K. H Vinay Kumar, Director Research, EMPRI was inaugurated the programme and street plays, which create an awareness about environmental conservation were performed during the walkathon by the students and artist from various organizations. Followed by the walkathon and awareness activities, river cleaning and anticlastic campaign activities were carried by the participants at Wesley Bridge of Cauvery River at Shrirangapatna. Ms. Satyashree, Programme Coordinator, Mr. Ramesh Chandrappa, Planning Officer and other staffs from EMPRI were leading the walkathon and awareness programme. Dr. Vadiraj K T and Dr. Anil Kumar K.M. faculty members from Division of Environmental Science, Department of Water & Health-Faculty of Natural Sciences, JSS Academy of Higher Education and Research, Mysuru were facilitated the walkathon and awareness programme.



World Water Day celebration in Department of Water & Health, JSS Academy of Higher Education & Research, Mysuru



Division of Environmental Sciences, Department of Water & Health, JSS Academy of Higher Education & Research, Mysore has organizing awareness program and walkathon at Bannimantap, Mysuru on occasion of commemorates the World Water Day to sensitize among the public and students on importance of water & hygiene, current issues and water conservation. In addition, Division is organizing competitions like e- poster presentation on the theme of "Leaving No One Behind", Environmental Captioning and Photography on the theme of "Life in landscape "among the students to create an awareness of environment and water conservation. Sri. U N Ravikumar, Former Director, CART, Mysuru has delivered special lecture on "Water for Life" during the world Water Day celebration and he enlighten the participants on water conservation and sustainable development through rainwater harvesting. He also revealed the existing problems and alternative routes for overcome from those water related problems. During the event, Dr. Kushalappa PA, Director Academics, JSS AHER, Dr. Balsubramaian S, Director Research, JSS AHER, Dr. Raveesha KA, Head, Department of Water & Health, Faculty members were presented.