



INFRASTRUCTURE & MAINTENANCE POLICY

**JSS ACADEMY OF HIGHER EDUCATION & RESEARCH,
MYSURU**

PREFACE

JSS Academy of Higher Education & Research is focused on medical and health-related studies, and comprises JSS Medical College, JSS Dental College and JSS College of Pharmacy at the main campus in Mysore as well as in Ootacamund, Tamil Nadu. With a view to extend the horizons in the field of Health Sciences, the Department of Water and Health, Department of Health System Management were also started.

Over the years JSS Academy of Higher Education & Research has amassed several accolades. The institute is accredited with A+ Grade (CGPA of 3.47 out of 4) by National Assessment and Accreditation Council (NAAC) during 2018 re-accreditation. The Deemed to be University is continuously sustaining its position since three years in top 50 universities & top 10 pharmacy colleges in NIRF ranking. For the first time JSS AHER has been recognized globally by the Times Higher Education within top 500 universities and the institute has been listed in the band of 200-300 Universities across the world.

Continuing its efforts to impart quality education and infrastructure, JSS AHER has taken an initiative towards building up a Smart Campus by enhancing its teaching – learning resources, infrastructure, upgradation of technology, research & innovation, waste management and green environment resilience. The institute has planned to incorporate smart thinking which leads to sustainable living and working conditions especially among the students who are not only the main stake holders but also the future ambassadors of smart and sustainable life styles.

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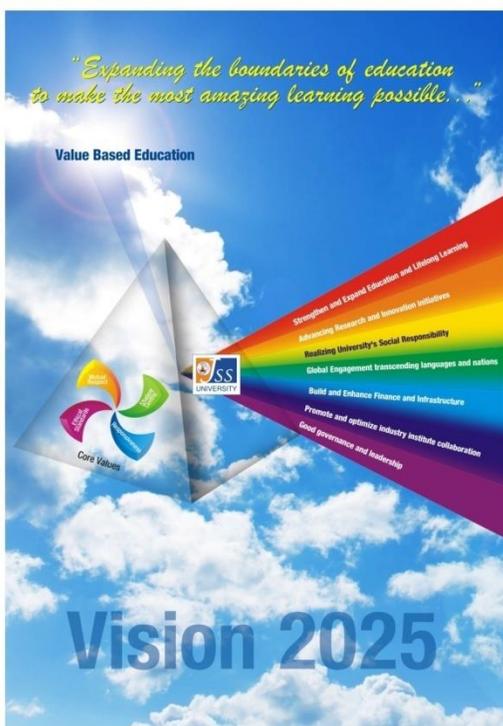
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Executive Summary

JSS group of institutions has a number of educational units at different regions and the JSS Academy of Higher Education & Research or shortly JSS AHER is one of the important milestones in the societal contribution of the parent organization, JSS Mahavidyapeetha and it has grown tremendously in just over a decade which is because of the continuous striving to fulfill the Vision & Mission of the Deemed to be University. The institute has set up a Vision Plan for the next 15 years to reach a status of excellence.

VISION PLAN

Vision 2032 - Transformation from Good to Excellent



“ Vision

To provide education that helps transformation of individuals and society. ”

“ Mission

The mission of JSSU is to expand the boundaries of education and to make the most amazing learning possible by:

- Providing superior undergraduate, graduate and professional education to its students.
- Developing and advancing the talents of students to create applicable knowledge.
- Nurturing translational and transformational research that benefit the society.
- Inspiring to excel in health sciences delivery and care. ”



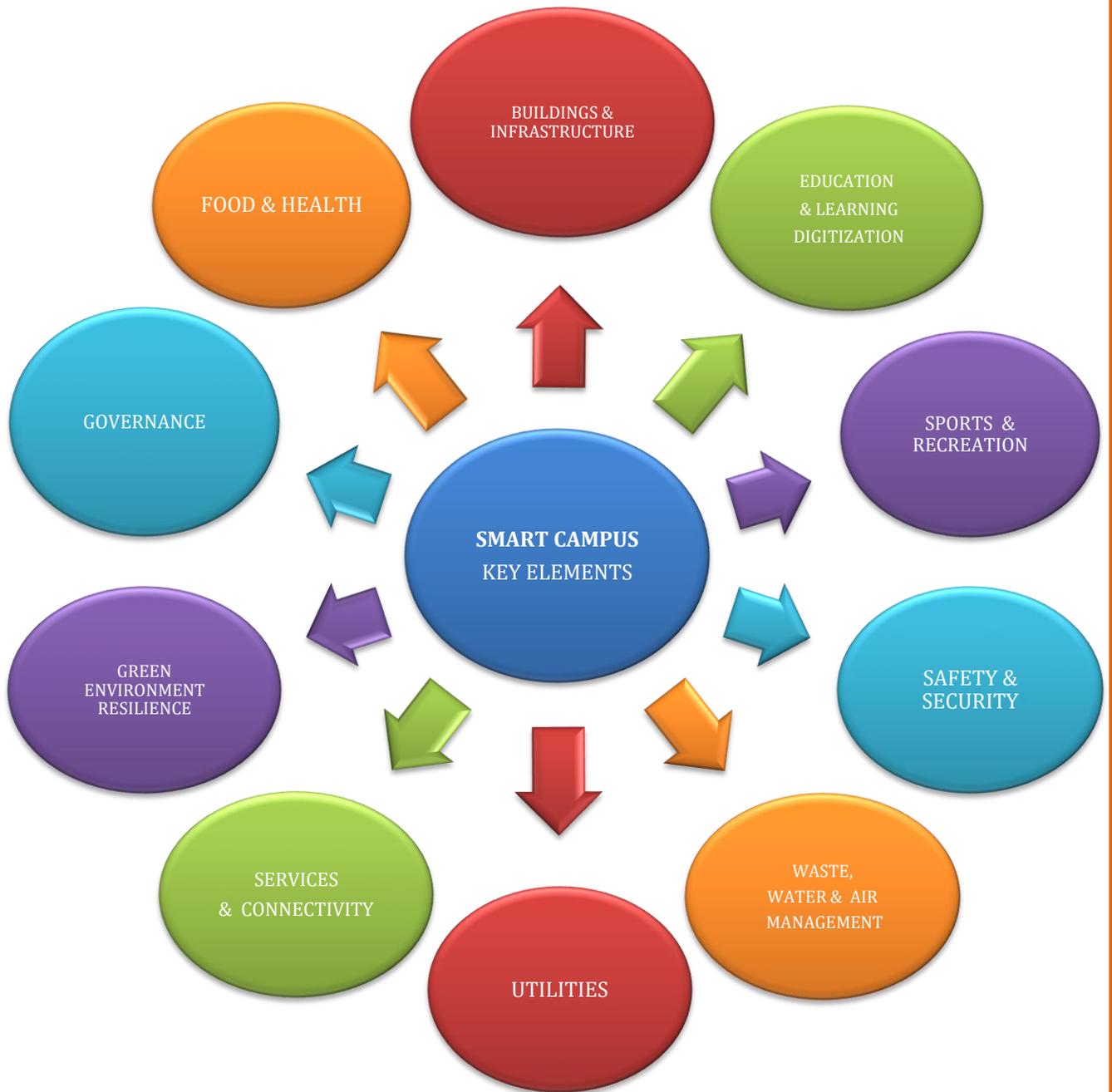
Focus Areas of Education and Research

- ❖ Health Sciences
- ❖ Science and Technology
- ❖ Energy, Environment and Water resources
- ❖ Skill Development and Entrepreneurship
- ❖ Policy, Leadership and Good Governance

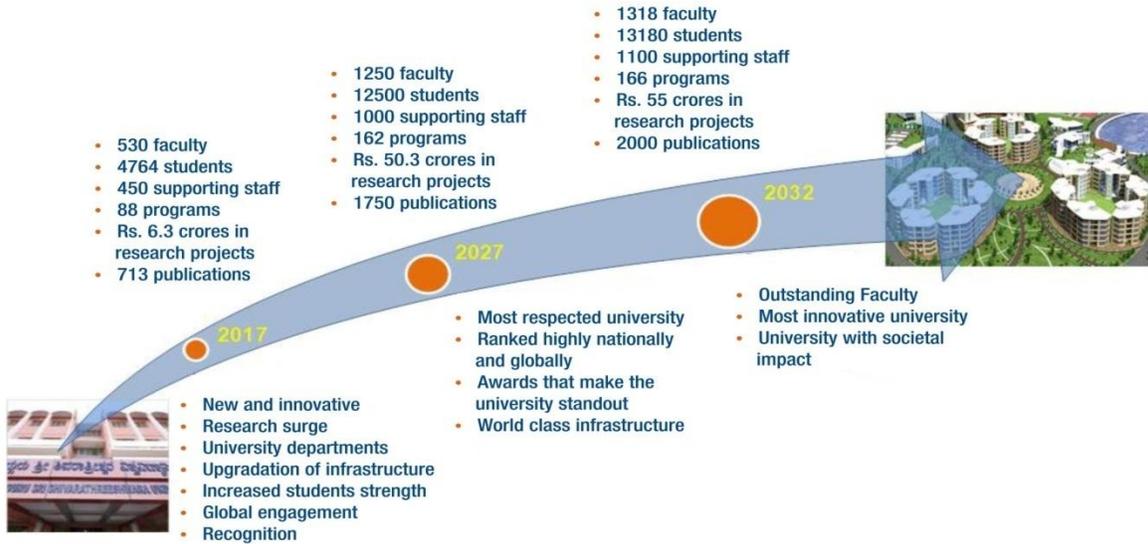
The institute is situated in a 43 acre land and comprises of Medical College, Dental College and University Departments (Faculty of Life Sciences and Health Systems Management Studies). JSS AHER has planned to adapt for a smart campus as per the need of the hour. The institute is focusing on 10 key elements that comprise smart campus viz. 1. Buildings & Infrastructure, 2. Education, Learning & Digitization, 3. Sports & Recreation, 4. Safety & Security, 5. Waste, Water, Air management, 6. Utilities – Water, Gas, Electricity, 7. Services & Connectivity, 8. Green environment resilience, 9. Governance & 10. Food & Health.

As an initial step, the institute has surveyed the available facilities which would enable either to enhance or add smart features. Further, discussions and feedback from stake holders are in progress which would add significant values towards the goal. Students are the central part of the smart campus as they are the ambassadors of a sustainable future.

To begin with, the institute has planned to focus on Swachhta Ranking, an initiative by the MHRD, Government of India which earmarks the potential of an institute to be smart.



15 Year Vision Plan for becoming an Institution of Eminence



JSS AHER has set a long term goal of establishing its new campus at Varuna with an estimated budget of Rs. 2000 Crores.



An over view of the architectural plan of the proposed Varuna campus
 With the vision already set, the implementation of smart and best practices will be an important aspect to be followed for a smart and sustainable future of the employees and

the student communities at large. Executing the practices of energy conservation, reducing carbon footprints by sustainable food habits among the faculty and students, proper drinking water facilities, water re-usage, managing food, solid and other wastes, healthy living standards through habits of well being, pollution control within the campus achieved through pedestrian friendly atmosphere and reduction of vehicle commuting, increasing the green carpet and preserving open spaces and other institutional best practices are the key players of achieving a smart campus.

1. INTRODUCTION:

A Smart Campus actively learns from and adapts to the needs of its people and place, unlocking the potential of e-technology and enabling world-changing learning and research methodologies. Also to create an environment friendly atmosphere enabled with technology is the main goal of a smart campus. It is a modern application in the standard of the internet of things. The idea of building a “smart campus” implies that the institution will adopt advanced ICTs to automatically monitor and control all the facilities on campus. The students and staff members will benefit from location-aware services for using campus equipments and collaboration services. This will add values for students and increases the attractiveness of the campus. New emerging technologies have changed human lifestyles dramatically. The smart campus implements an IoT-based system to a selected part of campus like the Campus Environment, Campus Security, Campus Parking, Campus Building, Campus offices, and classroom to create smart environment, smart security, smart building, smart parking, smart offices, and smart classrooms.

Apart from focusing on technology, smart campuses are inevitable to restore environment and resources and also help the student communities for a smart and sustainable future. There are more than 750 universities, 40,000 colleges and institutes, and 1.5 million schools in India where around 200 to 300 million students are engaged in learning. Apart from being a significant consumer of energy, water and other utility and material resources, the educational campuses provide captive young thinkers action-based education on sustainable development. They are the spaces bubbling with potential opportunities to create skilled and 'job-ready' professional force.

Government of India has initiated a project on smart campuses throughout the country. The project is flagship activity of Technology, Education, Research and Rehabilitation for the Environment (TERRE) Policy Centre, a think-tank and action platform for sustainable development. It is called Smart Campus Cloud Network (SCCN).

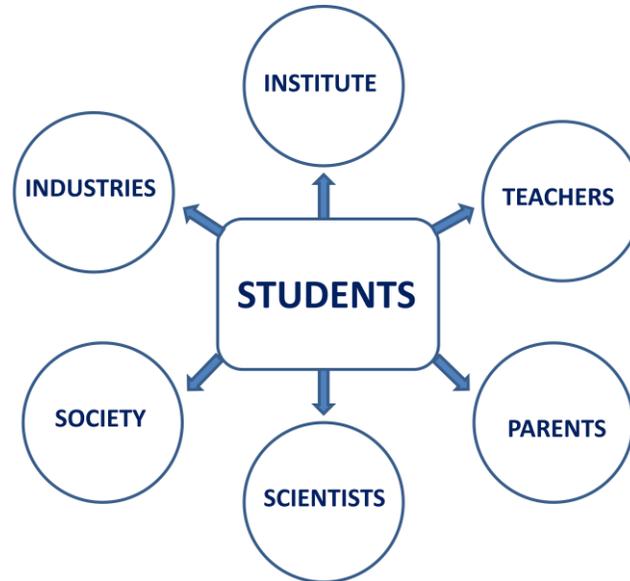
A smart campus is achieved by integrating sustainability to every component of an institute including building structures, renewable resources, digitalization through internet of things (IoT), bringing together the institute, stake holders, faculty and external members to understand the necessity of a sustainable and environment friendly campus.

JSS AHER has established its State of Art Campus using cutting edge technology. In order to achieve the smart campus status the institute and the constituent colleges have initiated the process of implementing technologies like

1. Smart Physical Security and Surveillance
2. Smart Wi-Fi Enabled Campus
3. Smart Metering
4. Smart Recycling Process
5. Smart Transportation System
6. Smart Energy Conservation and Utilization practice
7. Smart Hostel Management
8. Smart Canteen/food court management

For meaningful and successful sustainability programs in campus we need to

- Set clear strategies and goals
- Have a comprehensive approach
- Integrate students, faculty, staff and external partners
- Initiate pilot projects in several areas involving students
- Plan policies, financial resources, facilities management, curriculum, sustainability literacy, ecosystems, land use, energy resources, etc.



Stake holders involved in the building of a smart campus with students occupying the central position

2. SMART CAMPUS POLICY

I. OBJECTIVE:

- To embed smart technology into daily life of the campus, providing an opportunity for the development and application of innovation and technology to support a smart campus.
- To integrate an enhanced process and programme focused on energy, materials, security, health, transport and environment management.
- To focus on maintaining “Eco friendly institution” through best practice.
- To educate students on the importance of sustainability for a smart future
- To provide world class facilities to enable nationally and internationally renowned industrial/institutional partners to co-locate on the campus.

II. SMART CAMPUS INITIATIVES:

a) Over all activities:

- The Institute implemented CCTV cameras for the security of students day and night from the year 2010.
- The surveillance has built in analytic and intelligence for immediate remedial measures.
- Students are always connected to smart Wi-Fi.
- Healthy environment to support the mental, physical and social well being of the students and staff of the Institute.
- Daily power and water consumption data per student and room basis are captured and analyzed for reducing consumption cost.

b) Students Centric Smart Campus:

- Students are ensured a safe and secure homely atmosphere and are being monitored round the clock.
- Students have high speed internet both on campus and hostel rooms.
- Smart portal has a great impact on both students and stakeholders who are directly involved in daily hostel operations.
- Students are involved in the making of smart campus through several mini and major projects.

c) ICT Based Smart Campus:

- Physical security of students in the campus was a big challenge.
- 400 CCTV cameras are in operations for surveillance at all times.
- Internet plays a vital role in enabling students to pursue their academic goals. Internet with adequate band width was provided to make the campus Wi-Fi enabled.

- Optimization and improvement can only be brought about by identifying consumption patterns. The goal was to reduce the consumption of water and electricity to the lowest levels possible. Smart Metering was implemented for taking optimal decisions.
- A large number of students join every year. University needed a SMART portal where in all services are taken care centrally from student entry in hostel and to their exit. Smart Portal was made operational for connectivity with students at all times.

d) Environment Friendly Smart Campus:

- 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 AHER has adopted an energy / resources conservation and recycling policy.
- Conservation of energy and natural resources and recycling process is an integral part of JSS AHER facilities' design and usage.
- The University employs a variety of energy conservation, recycling, and other techniques to lessen the consumption of resources and achieve the lowest feasible life cycle costs.
- 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.
- All faculty, staff, students, design consultants, and construction contractors 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 are responsible for internal energy conservation and recycling efforts.
- The Transport Policy provides the Institute with a standard procedure for the acquisition, enhancement, use, control, maintenance, repair, checking fuel efficiency and disposal of the Institute's vehicles and for the management of related forms of transport engaged for Institute activities.

III. LONG TERM GOAL:

The long-term strategy of the University focuses on the creation of a world-changing, connected, healthy and vibrant university campus. To achieve the goal, the Institute will concentrate on:

a) Digital Environment

- Open, flexible, integrated, interoperable, secure and scalable ICT architecture;
- Sense, capture, monitor and evaluate data to support and study the performance of the campus in real time.

b) Integrated Urban Energy Systems

- Low carbon, low impact energy in a complex urban environment, focusing on generation, storage, distribution and management.

c) Data-driven Infrastructure Innovation

- Resilient infrastructure systems
- Innovation in infrastructure design and delivery
- Building Information Modeling (BIM) for design and life-cycle performance.

d) Health & Wellbeing

- Evaluate, understand and improve the physical environment
- Develop new practices for workplace wellbeing
- Develop the technology, including wearable technology, to measure and influence health related behavior.

e) Student Experience and Pedagogy

- Data-driven services and spaces for an improved student experience
- Technology-enabled learning & teaching (including active learning, interactive teaching, flexible study).

IV. AUTHORITY:

The Vice-Chancellor & Registrar of JSS AHER hold delegated authority and are responsible for all aspects of the Institute's "SMART CAMPUS POLICY".

The Smart Campus Policy of JSS AHER follows:

- The Swachh Bharat Mission (Urban) guidelines, Government of India.
- National conservation strategy and policy statement on environment and development, Government of India.
- National Cyber Security Policy, Ministry of Communication and Information Technology, Government of India.

3. DEMOGRAPHICAL VIEW OF MEDICAL INSTITUTIONS



4. KEY ELEMENTS AND SUB ELEMENTS OF A SMART CAMPUS

1. Smart Buildings & Infrastructure

- Accessibility
- Safety and Security
- Energy efficient
- Rain Water Harvesting (RWH)
- Walkable campus
- Bicycle
- Sustainable Transport
- Road network
- Signage

2. Smart Education, Learning & Digitization

- Smart Classroom
- E-Resources
- Wi-Fi Connectivity
- ICT Enabled services
- Modular Laboratories
- Innovation Centre
- Virtual Class and Laboratories
- Outreach Programmes

3. Smart Sports & Recreation

- Playgrounds
- Sport facilities-Indoor and Outdoor
- Recreational space
- Open Gym
- Yoga facilities
- Amusement park
- Open air theatre
- Swimming pool

4. Smart Safety & Security

- CCTV surveillance
- Fire alarms
- Fire fighting
- Peripheral safety
- Visitor management system
- Biometric system
- Anti-ragging
- Women safety
- Student counselling system

5. Smart Waste, Water & Air Management

Sanitation and cleanliness
STP
Solid waste management
Plastic waste management
E-waste management
Automatic sensor taps
Air monitoring system

6. Smart Utilities

Solar Projects
Smart lighting System
Emergency power backup
Smart micro grids
Bio-gas plant
Kiosks

7. Smart Services & Connectivity

Online services
Amenities- Bank, Food court, Stationery, pharmacy
Wi-Fi Services
LAN

8. Smart Green Environment Resilience

Green Campus
Landscaping
Preserving open space
Soil erosion control
Ground water recharging

9. Smart Governance

ERP
Less paper Office
Training and Development
ART- Accountability, Responsibility, Transparency

10. Smart Food & Health

Wellness Centre
Health Centre
Potable water facility
Personal Hygiene

ACTION TAKEN REPORT

4.1. **Smart Buildings & Infrastructure**

Buildings & Infrastructure are the main criteria of functionality. The JSS Medical Institutions comprise JSS Medical College, JSS Dental College, Faculty of Life Sciences (Heritage Building), Hostels and Playgrounds.

To realize the vision of providing education for transformation of individual and society, each faculty has been provided to have their own separate self contained buildings to meet the academic, administrative, research, training and extension activities associated with teaching learning process. The infrastructure is provided to meet the modern requirements by retaining the conventional methods wherever required to accommodate the following requirement:

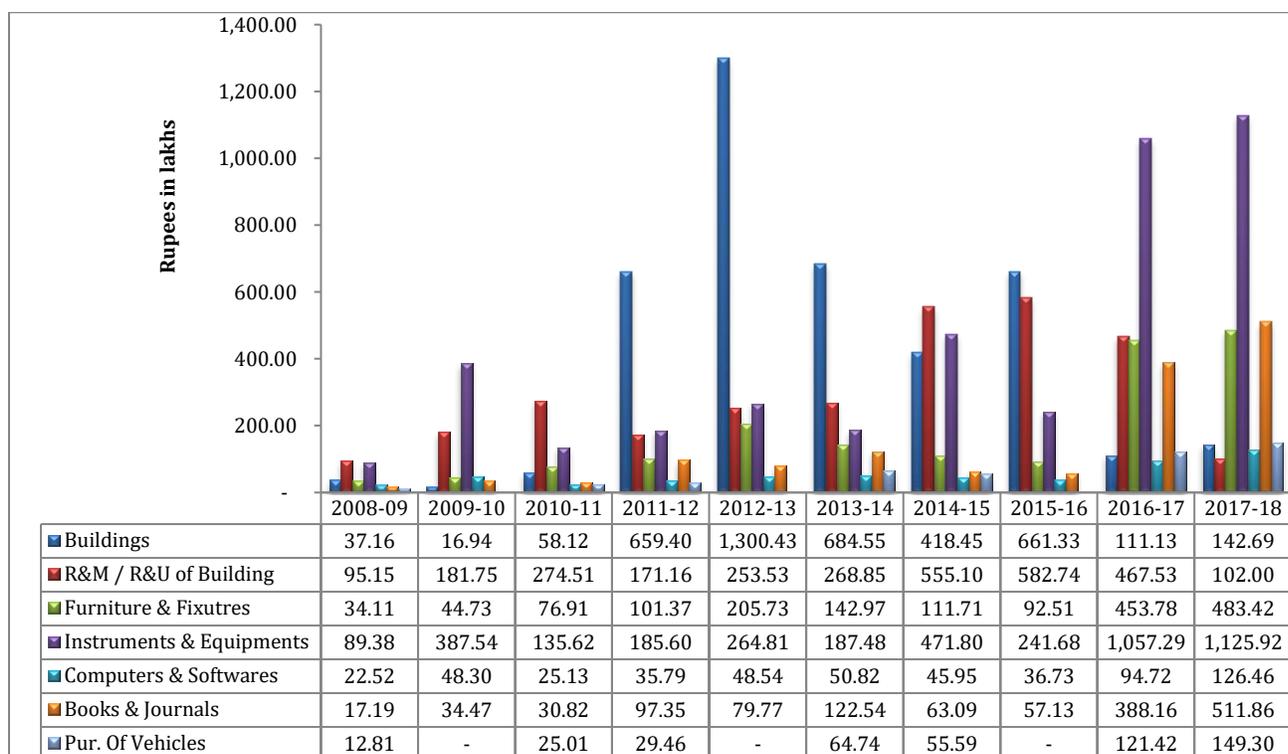
- ✓ To have national and international strategic tie – ups and to collaborate with reputed universities, industries and research organizations.
- ✓ To build global network through alumni and to have multidimensional partnerships with faculty and institutions around the world to foster flow of ideas.
- ✓ To establish centers of excellence.
- ✓ To ensure the quality education system nationally & internationally and necessary certification recognition are obtained.
- ✓ To attract the best researchers and research students by providing comprehensive support and motivation.
- ✓ To drive inter – disciplinary approach as desired by the global world.
- ✓ To work in partnership with policy makers and practitioners worldwide, to bring improvement in real time to people’s lives.

JSS AHER is a multi campus institution located with its campuses at Mysuru and Ooty. The campuses have a total extent of land area of 57.24 acres and house the four constituent colleges and two university departments. The campus is endowed with the state of the art buildings comprising of the physical infrastructural facilities that support and facilitate teaching – learning process.

Following are the details of land of JSSAHE&R Campuses and the expenditure incurred towards providing infrastructure to create an excellent ambiance and atmosphere for work

Sl. No.	JSSU Campuses	Total Area in acres	Total Built up Area	Plinth Area / in %	Infrastructure Provided
1	JSSMI Campus, Mysuru	43.60	79861.81 Sqm	15.06%	<ul style="list-style-type: none"> • Academic Infrastructure • Library & Information Services & ICT • Amenities • Support Services
2	JSSCP Campus, Mysuru	7.19	17,966.82 Sqm	27.90%	
3	JSSCP Campus, Ooty	6.40	37932.76 Sqm	22.96%	
4	NRI Studio Apartments - Off campus (B+G+3)	0.275	1747.60 Sqm	33.67%	
5	Staff Quarters - Off campus (G+2)	0.275	1982.00 Sqm	56.67%	

Expenditure Incurred towards providing Infrastructure



Academic infrastructure

Auditorium

Auditoriums and multipurpose halls are fully equipped with AC, lighting and AV solutions for conducting various functions, meetings and cultural activities as below:

Sl. No.	Name of the Institutions	Seating Capacity
1	JSS Medical College, Mysuru JSS Hospital, Mysuru	600 500
2	JSS Dental College & Hospital, Mysuru	300
3	JSS College of Pharmacy, Mysuru	500
4	JSS College of Pharmacy, Ooty	500



Gallery / Seminar halls

Sl. No.	Name of the Institution	Details	Seating Capacity	Number
1	JSS Medical College, Mysuru	Lecture Hall (Gallery Type)	275 x 1 250 x 4 200 x 2	07
2	JSS Hospital	Lecture Hall	250 x 1 150 x 1	02
		Seminar Room	60 x 100	14
3	JSS Dental College & Hospital, Mysuru	Lecture Hall	100 x 4 60 x 2	06
		Seminar Hall	50 x 9	09
4	Dept., of Water & Health	Lecture Hall	40 x 3 20 x 4 15 x 6	13
		Seminar Room	100 x 1	01
5	Dept., of HSMS	Lecture Hall	40 x 2	02
		Seminar Room	40 x 1	01



PG guest hostel

JSS AHER has newly constructed the PG Guest Hostel at the North East Corner of JSSMI Campus comprising B+G+2 floors.

Guest House



Sub Elements of Smart Buildings & Infrastructure

Accessibility

JSS Medical College campus is situated on the Mysore – Bangalore Highway and it is well accessed by all the stakeholders. College has bus facilities for students and it is also well connected through local bus routes.

Disabled access facilities provided for physically challenged

For the physically challenged personal the following facilities are made available in the college campus.

- ✓ Wheel Chairs
- ✓ Stretchers
- ✓ Ramps provided in all the floors of the college and hostel
- ✓ Suitable toilets provided in college and hostels
- ✓ Lift facilities available



Accessibility for disabled or students who require additional support during examinations

Wash room – physically challenged access

All the institutions of JSSAHE&R have provided the Physically Challenged Friendly Washrooms for the convenience of them.



Safety and Security

All the buildings are safe and do not pose any threat to students, employees and other stakeholders due to wide spaced rooms and corridors. Fire alarms and fire extinguishers are in place. Laboratories are equipped with first aid accessories.

Energy efficient

Most of the buildings are equipped with enough natural lighting, avoiding the use of artificial lighting during majority of the time. Wherever lighting is required, all the energy consuming bulbs have been converted to LED lamps which conserve energy. There is enough ventilation allowing natural air passing through the buildings, thereby reducing the use of air conditioners.

Name of the Institution	Power generation (SRTP)	Date of Solar plant charging (of panels) / generation	Details of Feeders used for Solar power generation		Impact of the initiative
			No. of feeders	Capacity	
JSSDCH	172 kw	19 th May 2019	04	50kw*2no's 36kw*2no's	Total Power dependency on KEB is reduced by 50% in JSS Medical Institution campus of JSS AHER @ Mysuru
JSSMC	200 kw	3 rd June 2019	04	50kw*4no's	
JSSCPM	100 kw	19 th July 2019	02	50kw*2no's	Total Power dependency on KEB is reduced by 70% in JSS College of Pharmacy campus of JSS AHER @ Mysuru

Rain Water Harvesting (RWH)

There are a couple of pits available within the campus which is connected by water pavements which collect rain water.

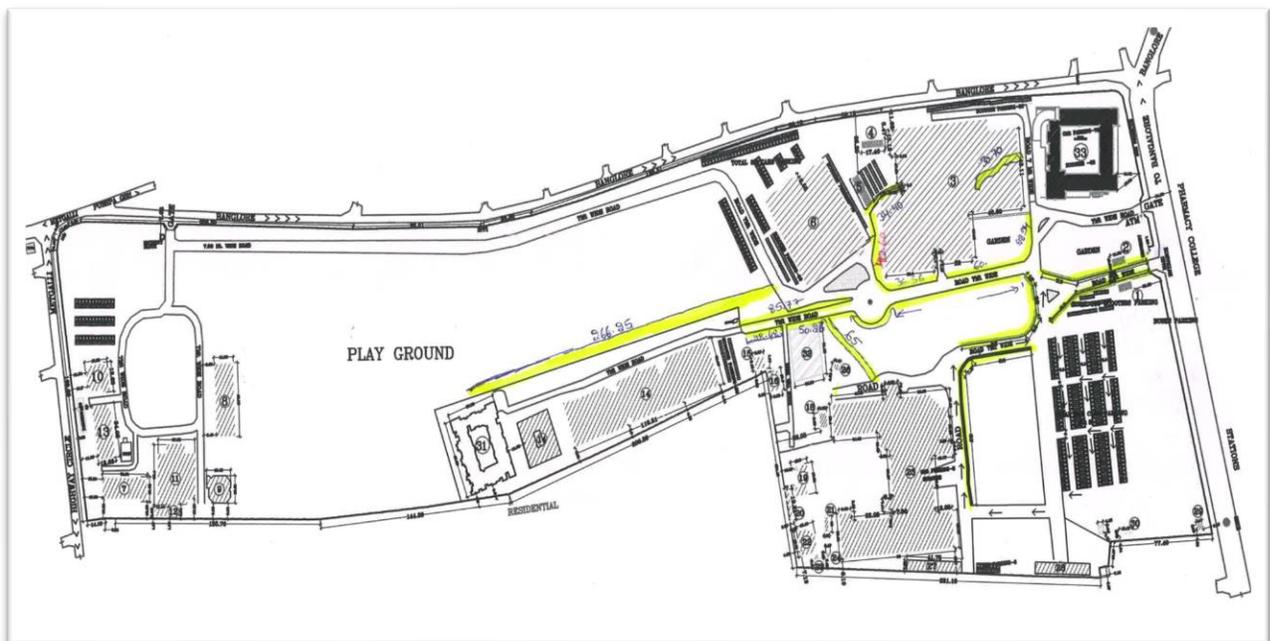


Walkable campus

The Medical College campus is well accessed by walking between the different constituent colleges. Almost 1 km of walking pavements have been arranged making the accessibility better.



Walking pavements within the campus



Bicycle

JSS AHER has introduced bicycles for the convenience of students and faculty at different points which has considerably reduced the usage of motor vehicles. This initiative goes in line with creating a green campus, reducing the carbon output.



Bicycle stand constructed within the campus

Sustainable Transport

JSS AHER has provided a well connected transportation to large number of students. Bus facility is provided for easy transit between the different units of the Institute for students, teachers and other employees. The college buses are regularly checked for their efficiencies, such that no extra fuel is utilized. The institute provides regularly maintained vehicles for commutation and the concept of car pooling and use of bicycles within the campus have been initiated.

Type of Vehicle	Total
Buses	11
Mobile Van / Ambulance	02
Bolero / Jeeps	08
Cars	03
Two Wheeler	01



Road network & Signage

The entire campus is well connected with roads and there are proper signage displayed wherever necessary.

4.2. SMART EDUCATION, LEARNING & DIGITIZATION

Digitization of teaching and study materials is under process. Accessibility to study materials by students is rendered through Wi-Fi connectivity in the entire campus. Most of the rooms are IT enabled in order to enhance learning through powerpoints and videos.

Spacious and well furnished libraries cater the needs of students in learning.

Existing Facilities

- Smart class room – 2 no's (MC & DCH)
- Simulation lab (Pharmacology and Physiology)
- Digital Library – 4 no's (MC - 40 no's. DCH – 15 no's. HSMS – 5 no's. FLS – 28 no's)
- Outreach programme facility (ISRO open Learning)
- IT enabled classroom (with projectors)
- Upto 1 GBPS uninterrupted internet services through NKN connectivity for a period of 10 years is availed (*presently, 300 mbps*)
- All the buildings are connected with OFC cable.
- Wifi connectivity is enabled (*within the building*)
- MS Windows license version computers
- JSSU online services (*for all official communication*)

Smart Classroom

Smart classrooms are provided to extract the potential of best online resources in teaching and learning process and to go extra mile to grasp information other than the curricula, online resources can improve the curiosity and creativity among the students.

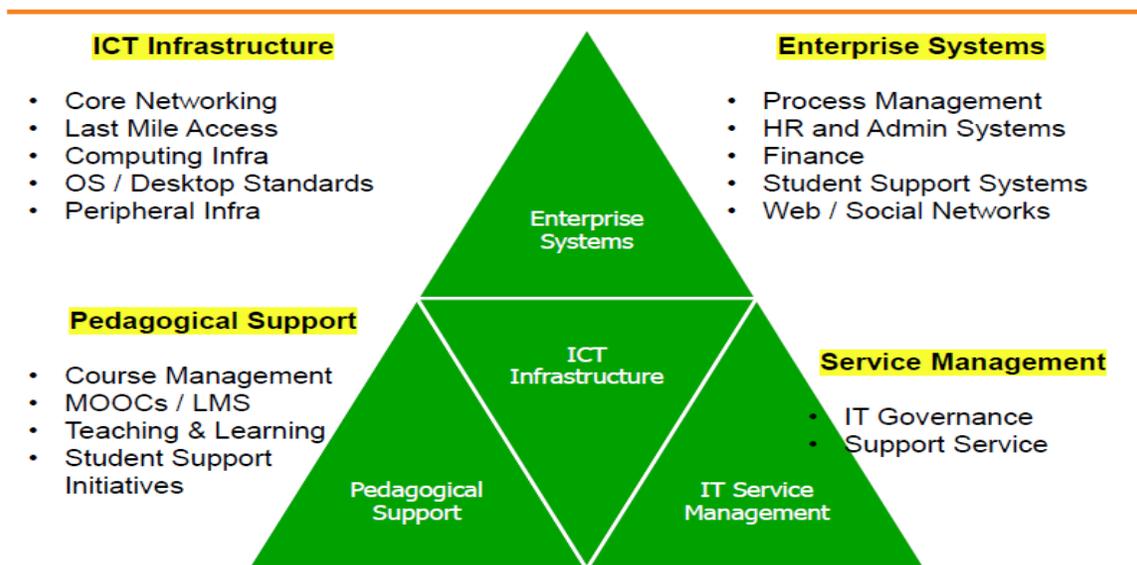


JSS AHER has provided smart class rooms with facilities up to date for benefit of the students.

ICT Enabled services, Wi-Fi Connectivity & E-Resources

The entire campus is Wi-Fi enabled and students can access learning materials wherever they are. All the study materials have been available through the JSS AHER online portal so that students can access through their login credentials and the same has been demonstrated during the most difficult times. Further, the institute is well equipped with digital library which hosts several thousands of books and journals readily accessible for students and teachers.

Priorities and Program Plans *ICT – Focus Areas*



Digital Journal of Clinical Medicine

In the era of Digital Technology and online learning, the concept of “Digital Journal of Clinical Medicine” is being introduced in order to help medical students learn in a better and more holistic manner. With smart phones and online learning gaining a significant role in every student’s life, it would only make sense to incorporate something that would be educative for them in a short span of time.

SWAYAM portal and MOOCs

Swayam is a programme initiated by Government of India and designed to achieve the three cardinal principles of Education Policy viz., access, equity and quality. The objective of this effort is to take the best teaching learning resources to all, including the most disadvantaged. SWAYAM seeks to bridge the digital divide for students who have hitherto remained untouched by the digital revolution and have not been able to join the mainstream of the knowledge economy.

Online Teaching

JSS AHER has stepped up to take its teaching online during the most difficult times making use of the ICT enabled services, Wi-Fi connectivity and E-Resources. The services provided were aptly rewarded.



Modular Laboratories



Innovation Centre

JSS AHER provides opportunities to incubate innovative ideas from both students and faculty. The innovation/incubation centre is called SPARKLE CINE. SPARKLE signifies Science Promotion through Advancement of Research & Knowledge for Life through Entrepreneurship, & CINE stands for Centre for INnovation & Entrepreneurship.

Sparkle CINE is a Section 8 company established under the aegis of JSS Academy of Higher Education & Research for the purpose of promoting translation of educational excellence to ideas and to catalyse the power of the idea towards innovation and entrepreneurship focused on advancement of Science.

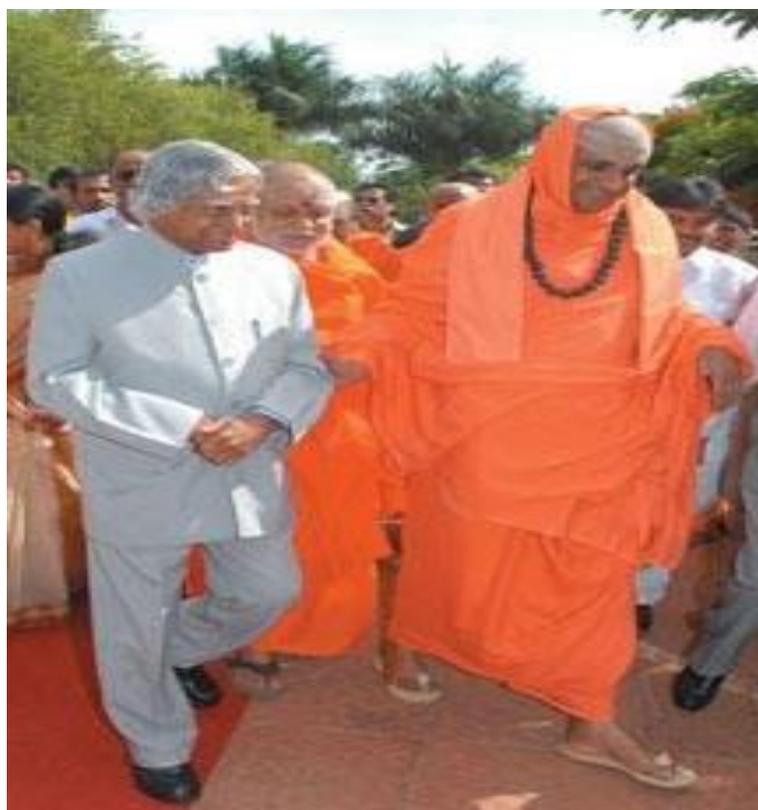
Virtual Class and Laboratories



In view of providing experimental training for the students in the Physiology and Pharmacology Depts of University, the students, researchers and faculty are given the facility of training **through simulation technology** via Elsevier Animal Simulation Software across the University. This is an attempt to comply with the CPCSEA guidelines.

Outreach Programmes

The Motto of NSS "NOT ME BUT YOU" reflects the essence of democratic living and upholds the need for self-less service. NSS helps the students develop appreciation to other person`s point of view and also show consideration to other living beings. JSS AHER started NSS activities at its constituent colleges with important objectives of identify the needs & problems of the community & involve them in problem-solving and to develop among themselves a sense of social and civic responsibility. It helps the students to acquire leadership qualities and democratic attitudes, to develop capacity to meet emergencies and natural disasters and practice NATIONAL INTEGRATION and SOCIAL HARMONY. We have 5 NSS Units spread across the constituent college with a strength of 450 NSS volunteers and 5 NSS Program Officers.



JSSAHER'S Social Responsibility is an approach of ethical and intelligent management, which involves both its impact on its human, social and natural context, and its active role on the promotion of Sustainable Human Development of the country. Within this approach, "Sustainable Campus" is a strategy that strives to reduce the ecological footprint of the Institution via a rational use of resources and to educate the JSSAHER community on the ethics of sustainability.

4.3. SMART SPORTS & RECREATION

Health and well-being are an important aspect of academic success and retention; when a student is healthy in mind and body, they are better able to focus on and complete their studies. By taking measures to improve a student's health and well-being, an institution is actually helping its self by potentially increasing the student's GPA and graduation, and retention rates.

The goal is to have the campus community flourish and be fulfilled individually and within our communities where we live, learn, work, and play. As one of the vital stakeholders in Health & Well-Being, the Sports and Campus Recreation Complex should fulfill this vision by providing space and opportunities for students to discover and affirm their own well-being practices in five different dimensions (emotional, physical, social, professional and spiritual) that lead to a healthy lifestyle.

Playgrounds



Sport facilities-Indoor and Outdoor





Open Gym



Yoga facilities



Amusement park – Yet to create
Open air theatre – Yet to create
Swimming pool – Yet to build

4.4. SMART SAFETY & SECURITY

CCTV surveillance

The entire campus is under CCTV surveillance to ensure the safety of students around the clock. Majority of the laboratories are also equipped with cameras to attend to any accidents. Hostels are also continuously monitored through the cameras.

Fire alarms & Fire fighting



Peripheral safety

Round the clock security guards (Male & Female for respective hostels) as well as CCTV cameras are placed for continuous monitoring and vigilance for the safety of students.



Safety parameters

- High raised buildings are equipped with fire/smoke sensors.
- Regular workshops on safety management are being conducted for both faculty and students to help them handle emergency situations.
- Interaction with Laboratory managers and electricians should be facilitated for the safety of the campus. Their contacts should be displayed and readily available in case of emergency.

Visitor management system

Visitors are monitored and entertained only after getting prior consent from the concerned Department. Security offices are advised to keep a record of visitors who enter the premises.

Biometric system

Biometric system is already in practice for all the teaching and non-teaching faculty of the institution.

Anti-ragging & Women safety

Committee comprising of faculty against ragging and sexual harassment is highly functional and therefore such circumstances are completely avoided in the campus.

Hostel premises are equipped with about 120+ CCTV cameras and continuous surveillance under security personnel.



Student counselling system

An efficient committee for student counseling system has been constituted to further address issues of students both academically and personally. The system is integrating students, teachers and parents.

Hostel premises are equipped with cameras and continuous surveillance under security personnel. A regular check of food for nutrition and hygiene is carried out in order to provide safe health.

4.5. SMART WASTE, WATER & AIR MANAGEMENT

Sanitation and cleanliness



Waste materials being cleared by the municipality

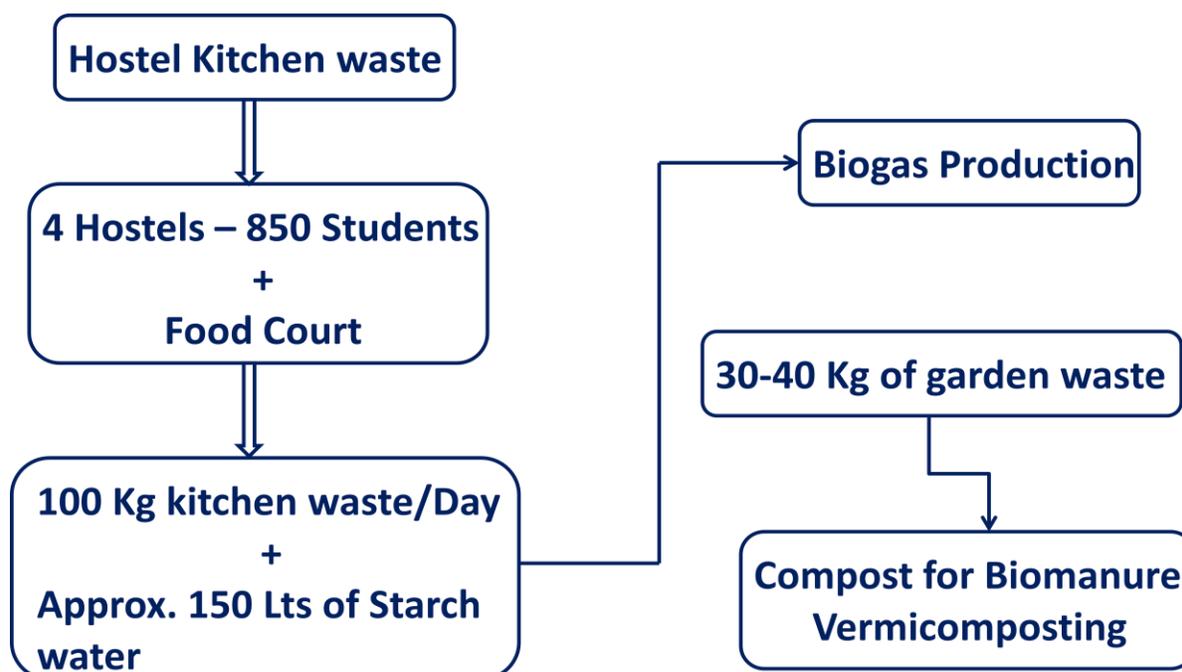


Colour coded bins for segregation of waste

Solid waste management

- Bio – medical waste management service is being availed since May 2003 (Dental & Medical) from M/s. Shree Consultants.
- Bio – medical waste management service is being availed (JSSCPM) from M/s. Gips
- Segregation and collection of dry and wet garbage is in practice.
- Color coded dustbins are provided across the campus.

Bio/food waste



Vermicomposting

Vermicomposting is the use of earthworms and microorganisms to accelerate the composting process. Worms, through digestion, liberate plant nutrients from organic material converting it to rich humus. Worms consume up to their own weight daily, excreting castings which contain from five to eleven times the amount of plant available nutrients in the material consumed. Worms have been recognized to play a very important role in the enhancement and maintenance of soil penetrability, redistribution of nutrients, water flow and gas exchange. The pedogenic value of worms, in addition to the release of nutrients, has vast applications in agriculture and soil reclamation. The vigorous ability of worms to convert organic residue into a nutrient rich growth medium also has applications in waste management.



Need for a Vermicompost unit within the campus

Our Institute maintains a very good green carpet area making the campus a green environment. With a number of trees within the campus, accumulation of fallen leaves and other plant materials account to around 50 – 100 Kg of bio-waste which is being dumped and finally removed by external agencies. With the smart campus initiative gearing up, it is worthwhile to consider our own strategies to handle the waste generated within the campus. In this connection the vermicompost unit would come handy to handle the plant waste materials which not only will help us manage waste but also serves as a student centered project to produce bio-manure.



Plastic waste management



The Institute has pledged to reduce the use of plastics throughout the premises. Constantly the students and faculty are being advised not to use plastics wherever possible. JSS AHER is continuously supporting the Swachh Survekashan, an initiative by the city Municipal Corporation.

E-waste management

Certificate No.	MERA/1819/2015	Date: 2-MAY-2018
Date of Material Receipt	12-APRIL-2018	
Weight	610Kgs	
Customer Reference No.	MOU Dated 3-AUG-2017	



CERTIFICATE OF E-WASTE RECYCLING

*This is to Certify that e-waste received for recycling
from
JSS Academy of Higher Education & Research,
MYSURU-15
has been safely disposed at our registered facility in an environment friendly manner.*



For Mahalaxami e Recyclers


Authorized Signatory

MPCB Reg. No. : MPCB/RO(HQ)/REG/14/E-Waste/HWMD-182 | Date : 31st July 2014
Renewed Reg. No. : MPCB/RO(HQ)/REG-15/EWASTE/HWMD-257/Dt. 9th Oct. 2015 Valid till 8th Oct. 2020
Mahalaxami e-Recyclers Pvt. Ltd. Plot no: 1-5 (Part), Gokul Shirgoan MIDC, Tal : Karveer, Dist : Kolhapur | Website : recyclebin.com

Waste water management

Hostels, for instance are the main source of sewage water, while waste water from canteens, restaurants and campus buildings add up to the sewage. An effective sewage water treatment in a biological aspect can replace conventional chemical water treatment, as a need for sustainable green management is vital for a smart campus.

Student Projects/Pilot Projects are a main source of ideas that can be implemented after successful completion of the projects.

Sewage treatment plant



Existing small scale sewage treatment plant in the guest house

Usually a sewage treatment plant (STP) is considered as a liability and is only planned to comply mandatory regulations. But same can be made an asset that produces revenue at the same time addresses the mandatory environmental compliances.

An STP can be considered to be an industry where the raw material (sewage and food waste) is of reliable supply and available at no cost. The treated water which is the product of this unit can substitute fresh water required for gardening and thus reducing the current water bills and finally the biogas which can substitute/supplement LPG in the kitchens and reduce LPG bills. Below is brief overlook of a model:

- Raw material is reliable
- Raw material is free
- Treated water (end product) has demand
- By-product (biogas) out of treatment has a demand
- Sludge produced can be used as a valuable source of fertilizer for the landscape irrigation

The specific salient features of the ARBiT™ STP are listed below:

1. ARBiT™ STP can be commissioned and operated even with low occupancy of the college unlike other technologies that requires at least 40% occupancy in the college project.
2. The ARBiT™ STP will be located between the B & C Blocks of girls hostel.
3. The ARBiT™ water reclamation plant will be located below and above the ground.
4. Wastewater unseen during the treatment process.
5. Zero noise and vibration during operation.
6. Power consumption is very low and approximately 70% lesser than conventional systems

7. The area required for the STP is also approximately 30% lesser than conventional systems. This will also reduce on the civil construction cost effectively reducing the capital required.
8. The odor produced from the STP will be collected, contained and discharged without causing inconvenience to the occupants or neighbors.
9. The quality of the treated water will meet the reuse standards specified by Karnataka State Pollution Control Board.
10. The disinfection of the treated effluent may be done using Hypochlorite.
11. The biogas generated during the treatment process can be used for beneficial purposes if required.
12. Optional treatment for the disposal of the organic solid waste from the canteens can be integrated with this ARBiT™ STP. High volumes of biogas can be generated and may be supplied to the canteens to reduce the LPG consumption or generate electricity.

Proposal of the STP to address the wastewater treatment for the girls hostel

As seen during the site inspection, we propose the location to establish next to the compound wall between the B&C block

The capacity of the plant: 90 KLD (detailed calculations given in the proposal)

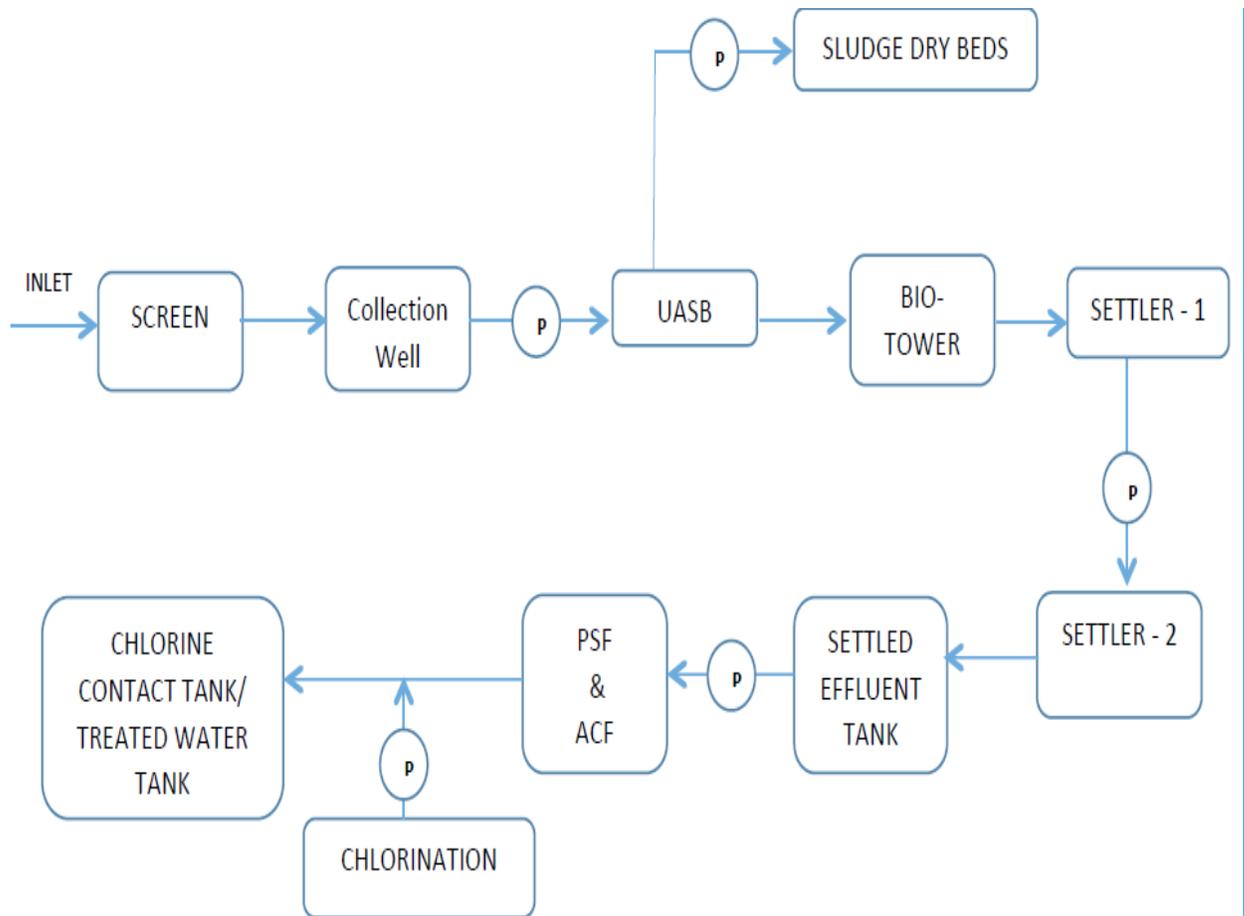
Implementing the biogas utilization unit along with the STP is possible since the leftover food from the canteen and the organic wet waste from the kitchen is very nearby and can be converted into biogas. The biogas is produced both from the sewage and left over food and vegetable waste.

The expected production of biogas per day equivalent of LPG is: 30 Kg which works out to Rs 47,400/- per month savings. The treated water can be used for the gardening and toilet flushing with small change in the plumbing. Recycling water will also reduce the fresh water consumption and in turn reduce the water bills.

The project thus meets the sustainability aspects, economical and entire campus become "Green".

ARBiT™ PROCESS

The ARBiT™ process (Anaerobic Reactor with Bio-tower) is a combination of both anaerobic and aerobic treatment of wastewater. The wastewater is first introduced into an anaerobic reaction tank (UASB tank) with a designed retention time. A floating sludge blanket is formed inside the UASB reactor under anaerobic conditions. Anaerobic degradation of organic matter (BOD) is achieved up to 75-80%. The overflow of this reactor is fed into the bio-tower for further removal of BOD under aerobic conditions.



Flowchart of the processes of water reclamation plant

Automatic sensor taps

The institute has fixed touch sensor water taps during the first phase to validate the use of such taps. Following the data of water saved, automatic sensor taps may be installed during the second phase of up gradation.

Air monitoring system – Yet to be initiated

4.6. **SMART UTILITIES – WATER, GAS & ELECTRICITY**

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” & non-degradable 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 utilization 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 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.

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 storm water 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.

JSS Academy of Higher Education & Research (JSSAHER) is conscious of its responsibility and role in materializing 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 AHER 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.

A survey of water utility and storage in the Medical Institutions Campus is given below

BUILDINGS	WATER CAPACITY
Main Over Head Tank	4,50,000 Ltr
Main Over Head Sump	2,00,000 Ltr
Over Head Tank Entrance	50,000 Ltr
Girls Hostel D Block Sump	85,000 Ltr
Girls Hostel D Block OHT	75,000 Ltr
Boys Hostel Sump	40,000 Ltr
MC Over Head Tank	30,000 Ltr
Guest House Sump	87,000 Ltr
Guest House OHT	25,000 Ltr
Canteen Sump	10,000 Ltr
Canteen OHT	10,000 Ltr
Total	10,62,000 Ltr

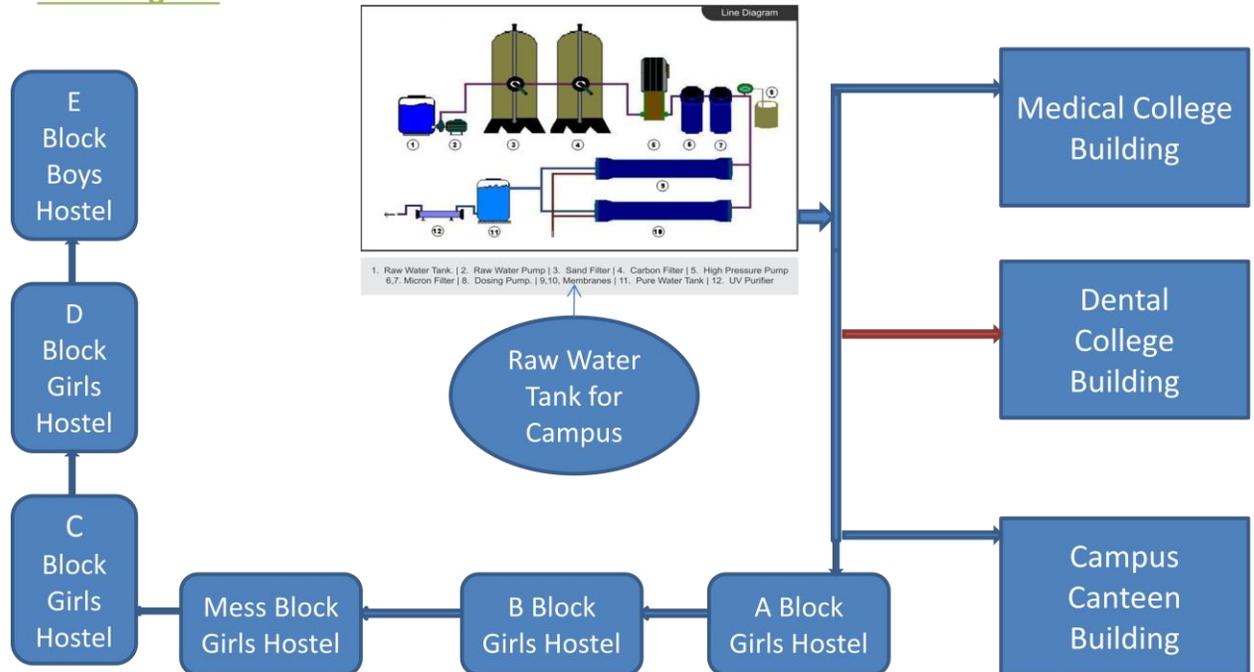
RAIN WATER HARVESTING / RO PLANT / WATER MANAGEMENT

- ✓ Rain water harvesting collection tank of 30,000 ltrs storage capacity.
- ✓ 10 no's of Ground water & bore well recharge pits and infiltration tank of about 15,000 ltrs 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 ltrs capacity is made for re-use of RO rejected water for gardening purpose
- ✓ Water sprinklers are in place

RO WATER SUPPLY - 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 fulfill the RO water requirement for the entire campus. The present RO plant installed is not sufficient to fulfill the RO water requirement for the entire campus.

Line Diagram



Inspection Report

- 1) The entire campus has a one Commercial RO plant of capacity 3000 LPH.
- 2) Plant needs to be upgraded to fulfill the present requirement of the drinking water.
- 3) The product output of the plant is having only 40% of permeate water Only
- 4) The RO water is been distributed in 2 different lines for the entire campus.
 - a) Line 1: Dental Block, Campus Canteen Block & Medical Block.
 - b) Line 2: Girls Hostel A , B , C , Mess Block , D Block Canteen and Continued to Boys Hostel E Block.
- 5) 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.
- 6) The Pipe line 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.

- 7) 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.
- 8) Since it is Purified water it has to be kept in a closed environment to avoid dust and microbes OR ELSE THERE IS NO POINT IN PURIFYING THE WATER.
- 9) Rest of the Blocks distribution pipe line in Boys and Girls hostel is CPVC can be retained.
- 10) 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.
- 11) Using Syntex 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.
- 12) All the storage tanks should be sheltered to avoid bio aerosol and dust



Current status of the RO Water Plant at the MCI

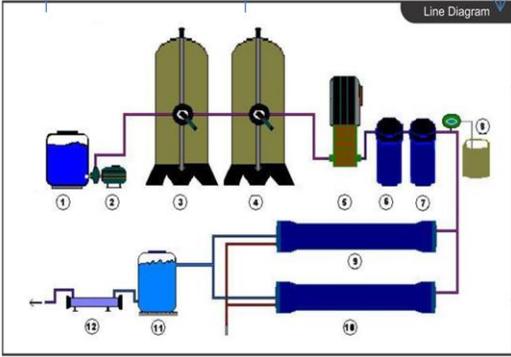
D BLOCK
 Floors : 4 Floors
 Students : 72
 Drinking Water
 Usage : 250

A BLOCK
 Floors : 4 Floors
 Students : 78
 Drinking Water
 Usage : 250

Mess Block
 Floor : 2 Floors
 Number of
 Students : 750
 Floating
 (3 Times Food)

E BLOCK (RO Plant)
 Floors : 4 Floors
 Students : 150
 Drinking Water
 Usage : 450

B BLOCK
 Floors : 4 Floors
 Students : 65
 Drinking Water
 Usage : 200



1. Raw Water Tank | 2. Raw Water Pump | 3. Sand Filter | 4. Carbon Filter | 5. High Pressure Pump
 6,7. Micron Filter | 8. Dosing Pump | 9,10. Membranes | 11. Pure Water Tank | 12. UV Purifier

C BLOCK
 Floors : 4 Floors
 Students : 54
 Drinking Water
 Usage : 150

D Block
 Floors : 7 Floors
 Number of Students :
 600
 Water Consumption per
 day 2000 Liters

Proposed upgradation of RO Water Plant at MCI

Schema A:

- 1) Upgrading the commercial RO Plant in the campus to 6000 LPH to Centralized RO plant and decentralizing the distribution of drinking water to the entire campus with Storage tank in each block with automatic filling.
- 2) RO Plant room has to be expanded by another 300 Sqft.
- 3) CPVC Pipe Line has to be laid to the distribution units.

Time Period: To complete the above process setup it would require one month time.

Tentative Budget:

- a) RO Plant Only : 15 Lakhs Rupees + 18% GST
- b) RO Room Building : 6 Lakhs
- c) Pipe Laying including Material Cost: 95 Rupees per feet
- d) Storage Tanks, Pressure Boosting Pumps and Fittings can be designed only after exact requirement which will be an additional cost.



Overview of the RO water distribution in the MCI campus hostels

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.

ELECTRICITY - UNDERGROUND CABLE WORKS COMPLETED







Underground Cable works and power backup

POWER / ELECTRICITY (Power back up: 24 x 7)

JSSAHE&R provides has created the facility of providing 24 x 7 power / electric supply either in the form of power connection through CHESCOM / TNEB and in case of failure in power supply, generators are installed in all the campuses for providing uninterrupted electric / power supply.

Campus	RR No.	Contracted Demand in KVA	Motor Constant	Date of Connection / Service	Generator
JSSMI Campus	HT - 166	450 KVA	2500	May 1995	2 dedicated generators of 450 KVA & 500 KVA capacity is provided with auto switch over facility
JSSCPM Campus	HT - 384	150 KVA	750	May 1995	82.5 KVA & 160 KVA
JSSCPO Campus	HT - 107	150 KVA	200	May 1995	100 KVA, 125 KVA & 150 KVA capacity is provided

Solar Projects



At the Institution level, solar panels have been installed which has considerably brought down the power consumption by at least 50% compared to earlier years. In order to set an example, the institution shares some of the electricity generated by solar energy to the local electricity board. Proper signages have been installed advising the users to always switch off the electricity when not in use.

Most of the lights have been replaced by energy saving bulbs and LEDs to save power. Continuous monitoring and maintenance of Air Conditioning, generators and other power appliances are being carried out to ensure that no power is being wasted under any circumstances.

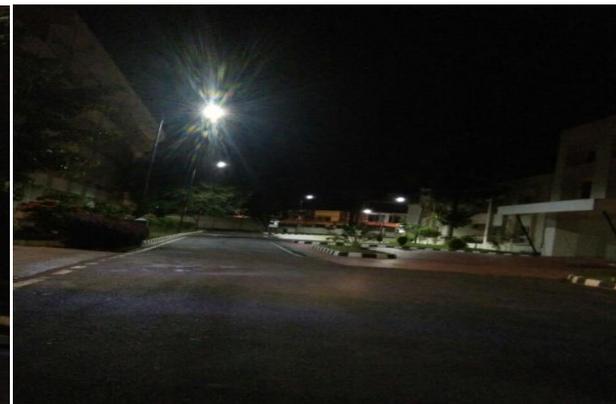


Emergency power backup & smart micro grids



Proper lighting

All the institutions campus of JSSAHE&R at Mysuru and Ooty are provided with LED lightings to promote security in the campus and to increase the quality of life by artificially extending the hours in which it is light and for the safety of hostel students.



Summary of power generation with the aid of solar panels

1	2				3		4		5	6
Month	KEB				Solar Units Generated		Total		KEB Rate	Saving
	A	B	C	D	A	B	A	B		
	Import Units KEB	Export Units from Solar	Actual Consumption of Units (2A-2B)	Amounts	Total Units	Amounts	Units	Amounts (2D+3B)		
Apr-19	144450	0	144450	1314716	0	0	144450	1314716	1314716	0
May-19	153225	0	153225	1419601	11909	73835.8	165134	1493436.8	1535134	41697.2
Jun-19	118150	75	118075	1096122	24708	153189.6	142783	1249311.6	1332678	83366.4
Jul-19	109425	450	108975	1023980	22879	141849.8	131854	1165829.8	1231164	65334.2
Aug-19	101250	1025	100225	944791	35607	220763.4	135832	1165554.4	1267196	101641.6
Sep-19	93125	4325	88800	850504	46215	286533	135015	1137037	1266547	129510
Oct-19	96375	7275	89100	852928	53755	333281	142855	1186209	1337953	151744
Nov-19	89025	10125	78900	764651	60973	378032.6	139873	1142683.6	1310793	168109.4
Dec-19	83575	9025	74550	720964	54812	339834.4	129362	1060798.4	1204710	143911.6
Jan-20	85600	3975	81625	781752	72663	450510.6	154288	1232262.6	1429742	197479.4
Feb-20	81425	17675	63750	628170	69004	427824.8	132754	1055994.8	1235333	179338.2

Mar-20	76300	19800	56500	560793	66086	409733.2	122586	970526.2	1132504	161977.8
Total	1231925	73750	1158175	10958972	518611	3215388	1676786	14174360	15598470	1424110

4.7. SMART SERVICES & CONNECTIVITY

Available Facilities

- Dental Hospital (366 dental chairs)
- Dental Mobile Van (*1 no. for community services*)
- Bank
- Post Office
- Pharmacy
- Co-operative Society
- Laundry / Cobbler
- Telecommunication
- Incinerators
- Photo copiers and bindings
- Health Insurance services(TATA AIG)
- JSS University NSS Unit
- Free Wi-Fi
- Common communication social platform like a link that connects faculty, students and the institute.
- An in house pharmacy is functioning within the campus to cater the needs of students as well as public.

Amenities- Bank, Food court, Stationery, pharmacy

BANK

A branch of State Bank of India at S. S. Nagara, Mysuru shares its banking services with the JSSAHE&R in the JSSMI Campus. The 24 x 7 ATM counter is also attached to the JSSMI Campus Building for easy access to the students.



Post office

Both the Post Office (Sub Branch) and the Telegraph Offices are in the campus for easy access of students and staff.



Co-operative society

The co-operative society is also a part of the institution, which cater to the needs of the students with their essential daily requirements and other requirements such as text books, note books, papers, surgical items, etc. The society works on '**no profit - no loss**' basis.



Food Court



Health centre with pharmacy



4.8. SMART GREEN ENVIRONMENT RESILIENCE

The beauty of nature is a gift of God, and as responsible citizens it is our duty to protect this gift by all means. Hence, following actions are initiated by JSSAHE&R towards Green Initiative:

- a) Greenery / Plantation
- b) Prohibition on use of Plastic bags and bottles
- c) E – scrape
- d) Use of Incinerators
- e) Solar – Power, Water Heater, Cooking System





**GREEN CAMPUS
CLEAN CAMPUS
PLASTIC FREE CAMPUS**

SPEED LIMIT 20 km./h.		WEAR HELMET 
NO SMOKING 	NO ALCOHOL 	NO DRUGS 
I WILL SALUTE IF YOU DON'T POLLUTE 	YOU ARE UNDER CCTV SURVEILLANCE 	

The Medical Institutions campus maintains a very well developed green carpet throughout the campus.



Recently more arrangements have been made for better parking.



Reduction of carbon foot prints in the atmosphere is a challenging task

A complete tree survey has been completed with the help of eminent botanists and students in the whole of Medical Institutions campus. The survey is vital in order to understand the distribution of plants and their level of carbon uptake.

4.9. SMART GOVERNANCE

Existing Facilities:

- Periodical seminars & conferences,
- Faculty development programme
- Hands on training
- Skill development programs (*computer, Tally, Simulation, Software, Access to data bases*)
- JSSU Online Platform
- Computers / Laptops / Printers / Scanners / Photocopier's / Projectors etc., are provided based on requirement to the administrative & supportive staff and for the Depts., as required.

Strengths of the Institution – A Health Sciences focussed Institution

Dynamic and visionary leadership provided by the authorities and officers of the University

Good governance driven by the expertise and wisdom of eminent personalities serving on the Board of Management, Academic Council, Finance committee, Planning, and Monitoring Board and other authorities

Providing leadership regionally, nationally and internationally

Academic excellence as exemplified by excellent human resource, infrastructure, and contemporary curriculum

Faculty who are distinguished, committed and from across the country National and International student diversity that serves as the melting pot of cultures

Distinguished leaders in academics, research, and policy as Adjunct and Visiting faculty National and International Collaborations with eminent universities, institutions, and organizations

Research excellence that is exemplified by the PI-driven nationally and internationally funded research, publications, patents and research programs leading to the award of Ph.D.

Infrastructure excellence that meets the academic, research, residential, extension, and student support needs

Financial sustainability and administrative autonomy that supports the continued growth of the University

Students & Alumni have always been instrumental in supporting the academic and research activities. The alumni are well placed as entrepreneurs, academicians & researchers and they bring laurel to institution through awards and achievements.

Global Engagement through strategic MoU's, staff / student exchange programs, International accreditations and outreach

Outreach through the State of the art Hospital with facilities catering to the diverse health needs and supporting the teaching, training and research programs of the University

4.10. **SMART FOOD & HEALTH**

JSS Academy of Higher Education & Research (JSSAHER) is committed to its “JSSAHER Social Responsibility Statement & Vision” to provide sustainable, eco friendly smart campus. The “Food & Supplies Policy” is related to procurement, storage and maintenance of food at (JSSAHER), which is a part of “Smart Campus Policy”. This policy provides provisions through which food to be procurement, stored, maintained and delivered to all the constituent colleges and departments of JSSAHER.

JSSAHER and its constituent colleges and departments are responsible in working with suppliers, contractors and partners to minimize environmental effects related to services and supports local suppliers and that all procurements represent value for money. All stakeholders shall assist JSSAHER in meeting the sustainable food & supply policy.

This policy is focused on but not limited to provision and procurement of food at JSSAHER. It applies to all aspects of sustainable food, including procurement, provision preparation, waste management, education, awareness and services.

JSSAHER ensures that:

- Procurement, storage and maintenance of food is reliable, safe and represent value for money.
- Environmental and social responsibility is factored in to all tenders and contracts and encourages small sized businesses.
- Suppliers are committed to sustainable use of transport, packaging, storing etc. Communication on progress made during the contract period.
- Recycling process for quantities and effective waste reduction.
- Usage of biodegradable packaging whenever possible.
- Recycling and reuse where applicable.
- Minimizing wastage while procurement, storage, maintenance and deliver.
- To serve sustainable food and to reduce plate waste.

Roles and responsibilities:

- JSSAHER and its constituent colleges and departments shall procure food in a sustainable manner in accordance with the “JSSAHER Social Responsibility Statement, Smart Campus Policy”, which are available from the JSSAHE’s website <https://jssuni.edu.in>.
- The Deputy Registrar has overall responsibility for the implementation and delivery of the policy within The University’s catering department. However, different colleges and departments shall have particular responsibility for managing aspects relevant to the department.
- Responsibility for application of the principles and practical delivery of this policy within the college in general lies with the Administrative Officers.
- Responsibility for application of the principles and practical delivery of this policy within catering services lies with the hostel wardens, catering managers and teams.
- JSSAHER shall promote sustainable food to customers to increase awareness and sales through meetings and workshops.
- Any changes to our sustainable food practices will be communicated on an annual basis as a summary report.

- The summary report will be produced by the Campus Maintenance Committee following an annual review by the Registrar and Deputy Registrar.
- Promote and supply seasonal fruit and vegetables to customers.
- Engage suppliers to measure the amount of local and seasonal fruit and vegetables and use to help with procurement decisions.
- Increase the procurement and consumption of organic food, focusing on the health, well-being and environmental benefits.
- Move all disposable products to biodegradable alternatives where possible and reduce the amount of disposables used.
- Ensuring tap water and drinking water is available at every catering outlet
- Eco friendly and effective cleaning materials.
- Send zero food waste to landfill directly and recycle all waste.
- Encouraging sustainable food: Contribute to thriving local economies and sustainable livelihoods. Protect the diversity of both plants and animals and the welfare of farmed and wild species, and avoid damaging natural resources.
- Support a culture of healthy eating
- Provide social benefits, such as good quality food, safe and healthy products, and educational opportunities
- Sustainable procurement is partly about buying and sourcing green products but it's also about ensuring energy and resource efficiency as well as long term cost effectiveness.
- Fair-trade on better prices, decent working conditions and local sustainability.
- Saving costs measured across the whole lifecycle of a product
- Decisions on procurement and accreditation should be made on the basis of a rational assessment of value, ethics and market trends.

The Policy Supports:

- The Swachh Bharat Mission (Urban) guidelines, Government of India.
- National conservation strategy and policy statement on environment and development, Government of India.
- National Cyber Security Policy, Ministry of Communication and Information Technology, Government of India.

JSS Institute hostels are well known for its aesthetic food and hygiene. The Institute follows strict vegetarian food both in hostels and food court. A regular check on food and hygiene is carried out to ensure safe health of the students.

Existing Facilities:

- Food Court (*80 seating capacity*)
- Coffee vending machine
- JSS Health Center
- Mess / Kitchen (3+1 +1 Nos)
- Staff Dining Hall – 2 no's. (JSSU)
- Dining Halls @ Hostels, Guest House, Food Court (5 no's.)

JSS Institutions are already contributing to the reduction of carbon foot print by following strict vegetarian food habits throughout the entire campus.

Further, it is necessary to give orientation to the students regarding the practice of low carbon food and diet.

Hostel officials, care takers and cooks are being trained on the importance of cleanliness and hygiene in the kitchen premises. JSS Institutions ensure that quality food commodities and raw materials are procured from approved vendors and local clean markets.



The pie chart depicts the procurement strategies of JSS AHER

Summary

BUILDING & INFRASTRUCTURE

- Accessibility
- Safety and Security
- Energy efficient
- Rain Water Harvesting
- Walkable campus
- Bicycle
- Sustainable Transport
- Road network

SAFETY & SECURITY

- CCTV surveillance
- Fire alarms
- Fire fighting
- Peripheral safety
- Visitor management system
- Biometric system
- Anti-ragging

SERVICES & CONNECTIVITY

- Online services
- Amenities- Bank, Food court, Stationery, pharmacy
- Wi-Fi Services

EDUCATION, LEARNING & DIGITIZATION

- Smart Classroom
- E-Resources
- Wi-Fi Connectivity
- ICT Enabled services
- Modular Laboratories
- Innovation Centre
- Virtual Class and Laboratories
- Outreach Programmes

WASTE, WATER & AIR MANAGEMENT

- Sanitation and cleanliness
- STP
- Solid waste management
- Plastic waste management
- E-waste management
- Automatic sensor taps
- Air monitoring system

GREEN ENVIRONMENT RESILIENCE

- Green Campus
- Landscaping
- Preserving open space
- Soil erosion control
- Ground water recharging

SPORTS & RECREATION

- Playgrounds
- Sport facilities- Indoor and Outdoor
- Recreational space
- Open Gym
- Yoga facilities
- Amusement park
- Open air theatre
- Swimming pool

UTILITIES

- Solar Projects
- Smart lighting System
- Emergency power backup
- Smart micro grids
- Bio-gas plant
- Kiosks

GOVERNANCE

- ERP
- Less paper Office
- Training and Development
- ART- Accountability, Responsibility, Transparency

FOOD & HEALTH

- Wellness Centre
- Health Centre
- Potable water facility
- Personal Hygiene
- Nutritional Values
- Dietary

Short Term Goal

Most of the elements related to Smart Campus have been achieved. However, it can be claimed thus only after a valid certification that needs to be carried out by an authorized third party.

Godrej Services has been identified as one of such client to carry out the validation process in line with Institutional Green Building Council (IGBC).

IGBC Green Campus Rating System

- ❖ It is applicable for buildings which are in design stage as well as operational
- ❖ Is applicable for campus with multi-functionality buildings
- ❖ Is majorly done for addressing the infrastructure design of the campus
- ❖ Influences the individual buildings to opt for green building rating program
- ❖ Addresses the complete water, energy and waste management on a holistic approach

IGBC GREEN CAMPUS – CREDIT CATEGORIES

S.No.	Category	Points
1	Site Planning & Management	22
2	Sustainable Transportation	11
3	Water Conservation	18
4	Energy Efficiency	21
5	Material & Resources	03
6	Health & Well being	06
7	Green Education (GE)	03
8	Innovative Practices	06
	Total	90

IGBC GREEN CAMPUS – SITE PLANNING & MANAGEMENT

Credits	Category
SPM MR 1	Green Buildings within the campus
SPM MR 2	Soil Erosion control
SPM Credit 1	Green Buildings within the campus
SPM Credit 2	Site Preservation
SPM Credit 3	Green Cover & Vegetation
SPM Credit 4	Heat Island Reduction, Non-roof
SPM Credit 5	Outdoor Light Pollution Reduction

IGBC GREEN CAMPUS – SUSTAINABLE TRANSPORTATION & WATER CONSERVATION

Credits	Category
Sustainable Transportation	
ST 1	Pedestrian Network
ST 2	Bicycle Lane Network
ST 3	Access to sustainable transport
Water Conservation	
WC MR 1	Rain water harvesting
WC Credit 1	Rain water harvesting
WC Credit 2	Landscape Design
WC Credit 3	Management of irrigation system
WC Credit 4	Waste water treatment & Reuse
WC Credit 5	Optimise water use for construction
WC Credit 6	Water metering

IGBC GREEN CAMPUS – ENERGY EFFICIENCY

Credits	Category
Energy Efficiency	
EE Credit 1	Energy Efficiency in Infrastructural Equipment
EE Credit 2	On-Site Renewable Energy
EE Credit 3	Off-Site Renewable Energy
EE Credit 4	Energy Metering

IGBC GREEN CAMPUS – MATERIALS & RESOURCE MANAGEMENT

Credits	Category
Material & Resource Management	
MRM Credit 1	Segregation of Waste
MRM Credit 2	Organic Waste Management
MRM Credit 3	Handling of Construction Waste
MRM Credit 4	Local Materials

IGBC GREEN CAMPUS – HEALTH & WELL BEING

Credits	Category
Health & Well Being	
HWB MR 1	Tobacco Smoke Control
HWB Credit 1	Basic Amenities
HWB Credit 2	Health & Well Being Facilities
HWB Credit 3	Universal Design
HWB Credit 4	Basic Facilities for Construction

IGBC GREEN CAMPUS – GREEN EDUCATION

Credits	Category
Green Education	
GE Credit 1	Green Education
GE Credit 2	Green Campus Guidelines

IGBC GREEN CAMPUS – CERTIFICATION LEVELS

Certification Level	New Campus	Existing Campus	Recognition
Certified	40 - 49	36 - 44	Best Practices
Silver	50 - 59	45 - 53	Outstanding Performance
Gold	60 - 74	54 - 66	National Excellence
Platinum	75 - 100	67 - 90	Global Leadership

Budget

Accordingly, financial implications are as below:

1. Feasibility study, Facilitation, Energy modeling and Fundamental & Enhanced commissioning fee is proposed for **Rs. 6,40,000/-**.
2. **IGBC Fee details:**
 - Registration fee ---> Rs. 30,000
 - Certification fee ---> Rs. 3,68,000
 - **TOTAL ---> Rs. 3,98,000**

Thus, the total financial implication would be around **Rs. 10,38,000/-**

Time Line

Gold certification could be attained in a period of 6 months.

Long Term Goals

Aligning the Key Elements of Smart Campus in line with the Sustainable Development Goals (SDGs) of the UNO

The 2030 Agenda for Sustainable Development, adopted by all United Nations Member States in 2015, provides a shared blueprint for peace and prosperity for people and the planet, now and into the future. At its heart are the 17 Sustainable Development Goals (SDGs), which are an urgent call for action by all countries - developed and developing - in a global partnership. They recognize that ending poverty and other deprivations must go hand-in-hand with strategies that improve health and education, reduce inequality, and spur economic growth – all while tackling climate change and working to preserve our oceans and forests. Today, the Division for Sustainable Development Goals (DSDG) in the United Nations Department of Economic and Social Affairs (UNDESA) provides substantive support and capacity-building for the SDGs and their related thematic issues, including water, energy, climate, oceans, urbanization, transport, science and technology, the Global Sustainable Development Report (GSDR), partnerships and Small Island Developing States. DSDG plays a key role in the evaluation of UN system wide implementation of the 2030 Agenda and on advocacy and outreach activities relating to the SDGs. In order to make the 2030 Agenda a reality, broad ownership of the SDGs must translate into a strong commitment by all stakeholders to implement the global goals.

SUSTAINABLE DEVELOPMENT GOALS





S. No	SMART CAMPUS KEY ELEMENTS	SUSTAINABLE DEVELOPMENT GOALS (SDGs)
1	BUILDINGS & INFRASTRUCTURE	SDG 9 (Industry, Innovation & Infrastructure), SDG 11 (Sustainable Cities & Communities)
2	EDUCATION, LEARNING & DIGITISATION	SDG 4 (Quality Education), SDG 15 (Life on Land)
3	SPORTS & RECREATION	SDG 3 (Good Health & Well- Being)
4	SAFETY & SECURITY	SDG 16 (Peace, Justice & Strong Institutions)
5	WASTE, WATER, AIR MANAGEMENT	SDG 6 (Clean Water & Sanitation)
6	UTILITIES - WATER, GAS, ELECTRICITY	SDG 7 (Affordable & Clean Energy), SDG 12 (Responsible Consumption & Production)
7	SERVICES, CONNECTIVITY & RETAIL	SDG 12 (Responsible Consumption & Production)
8	GREEN ENVIRONMENT RESILIENCE	SDG 13 (Climate Action), SDG 14 (Life Below Water)
9	GOVERNANCE	SDG 1 (No Poverty), SDG 5 (Gender Equality), SDG 8 (Decent Work & Economic Growth), SDG 10 (Reduced Inequalities), SDG 17 (Partnerships for the Goals)
10	FOOD & HEALTH	SDG 2 (Zero Hunger), SDG 3 (Good Health & Well-Being)

SUSTAINABLE DEVELOPMENT GOAL RANKS OF JSSAHER

SDG No.	GOAL	2019	2020 (India)	2020 (Global)
	Overall Ranking	101 - 200	3	201 - 300
1	No Poverty	-	2	60
2	Zero Hunger	-	2	101 - 200
3	Good Health and Well Being	46	1	20
4	Quality Education	201 - 300	13	401 - 600
5	Gender Equality	201+	2	101 - 200
6	Clean Water & Sanitation	-	12	101 - 200
7	Affordable & Clean Energy	-	7	101 - 200
8	Decent Work and Economic Growth	-	6	400+
9	Industry, Innovation and Infrastructure	201 - 300	12	400+
10	Reduced Inequalities	101 - 200	7	301 - 400
11	Sustainable Cities and Communities	101 - 200	5	301 - 400
12	Responsible Consumption & Production	16	6	201 - 300
13	Climate Action	-	2	101 - 200
14	Life Below Water	-	-	-
15	Life on Land	-	3	73
16	Peace, Justice and Strong Institutions	91	8	400+
17	Partnership for the Goals	201 - 300	5	201 - 300

Roadmap for attaining the Sustainable Development Goals through Smart Campus initiatives

1. Awareness
2. Advocacy at institution level
3. Implementation at institution level and association with local bodies
4. Monitoring
5. Where do we go from here?

The above listed strategies have already been suggested by Global Taskforce for Regional and local Governments to support and attain the 2030 agenda.

