

INTERNAL QUALITY ASSURANCE CELL

GURU JAMBHESHWAR UNIVERSITY OF SC. & TECHNOLOGY, HISAR

BEST PRACTICE- I

1. Title of the Practice: ACQUIRE KNOWLEDGE THROUGH RESEARCH AND INNOVATION

2. Objectives of the Practice

Guru Jambheshwar University of Science and Technology, Hisar, Haryana is a research-oriented university with an aim to create and transmit knowledge through quality research for the benefit of the local needs, nation and the world. Some deliverables generated to quantify the outcomes and value of the inputs that go into research at the University are:

- Generation of Knowledge through Research Outcomes to enrich teaching and application
- Extramural Research Projects for generation and expansion of knowledge
- Research Publications in journals of repute
- Consultancy
- Promote Entrepreneurship
- Extension services in neighborhood villages/communities

The University encourages advancement of knowledge through research-based activities by providing University research grants, supporting initiatives through state-of-the-art infrastructure, and excellent research laboratory facilities.

3. The Context

The vision and mission of the University is primarily focused on research and its deliverables. Research funds received from extramural sources, University Research Grants, research-based curricula, and research supervision of M.Tech/M.Pharm/Ph.D. students at the University have yielded quality publications, citations, distinguished awards/honours received by faculty and research scholars, etc. These have helped raise the h-index of the University to 100 within a short span of 25 years.

4. The Practice

The University has a system for promotion of research and innovation which includes the Research Promotion Board and an established structure of Department-wise Boards of Studies & Research (BoSR) and Departmental Research Committees (DRC). The University has Consultancy Policy and Ethics Policy that encourage knowledge generation and ethical research practices.

The excellence in research and innovation as reflected in various practices is as follows:

- **h-Index and Citations-** The Scopus h-index of the University has risen to 100, in a span of 25 years of establishment with a total number of citations about 60000 and about 3400 publications.
- **Extramural and DST PURSE Grant-**The University was the recipient of DST-PURSE Grant of Rs. 10.25 crore in the year 2017. Several Departments are supported under UGC-SAP/CAS, DST-FIST excellence grant. The University has also been granted TEQIP 2.0 for the session 2013-17 (12.50 Crores) and TEQIP 3.0 for the session 2017-22 (7.50 Crores)
- **Awards, Collaborations, Conferences:** Faculty members have also received worldwide recognition for their quality research publications, patents, collaborations and the successful integration of acquired knowledge into practice. Several grants have been instituted to encourage faculty members and research scholars to present their research findings at prestigious national and international conferences, which give them a chance to interact with and develop collaborations and joint research ventures with key academic institutions, industry, government, policy makers and research sponsors.
- **Research & Development Grants for Department faculty:** The University provides research grant to promote research among department faculty and enrich the research base of the University. Teachers in the cadre of Assistant Professor and Associate Professor who do not have minor or major projects are given preference.
- **Centre for Industry Institute Partnership (CIIP)**

The Centre of Industry Institute Partnership (CIIP) promotes interaction between faculty, students and industry mainly through consultancy & IPR. All consultancy related jobs are executive in the spirit of promoting industry interactions as a vehicle for augmenting current levels of excellence in teaching and research, and in the process, generating funds. The internal revenues generated during the assessment period is

around Rs. 2.0 crore including 50 Lakh from Dr. APJ Abdul Kalam Central Instrumentation Laboratory.

- **Publication, Funds for Organizing and attending National and International Conferences:** As an incentive for bolstering research outcomes, University provides funds for organizing conferences to the Departments and also provides funds for attending National and International Conferences to the faculty members.
- **Pandit Deendayal Upadhyaya Innovation and Incubation Centre (PDUIIC)**
PDUIIC serves to coordinate and promote incubation and innovation-driven activities for budding entrepreneurs. PDUIIC provides a platform to the young Innovators for achieving their goal towards self-realization by strengthening Technology Start-ups in selective areas of National concern by leveraging emerging technologies in developing a strong Nation. The PDUIIC aims to build and share resources including space and infrastructure, access to business support services, mentoring, training programs to enhance the skills of entrepreneurs and seed funds.

5. Evidence of Success

The success achieved in various initiatives is as below:

- The publication profile of the University is not only impressive in its content, but also admirable in terms of its diversity. More than 3500 research papers published by the faculty members includes articles in peer-reviewed journals, publications in the form of monographs, chapters in books, edited books and books.
- Faculty members have received grants every year as a result of their outstanding contribution to research, and various awards, national and international in recognition for their research work.
- The University has signed 42 MoUs with foreign universities, industries and institutions of importance in India for research collaborations.

6. Problems Encountered and Resources Required

The University aims to introduce interdisciplinary curricula and application-oriented component of its research programs, for generating human resources with more skill sets to enhance employability. The Innovation Projects and R&D Grants to faculty need to be continued enhanced and strengthened for the applied components to facilitate technology development and social outreach. There is also a requirement of constant

and sustainable inflow of finances for carrying out research initiatives, including up gradation of infrastructure for research and rewarding excellent research work.

BEST PRACTICE II

1. Title of the Practice: SUSTAINING GREEN CAMPUS THROUGH SCIENTIFIC AND ECO-FRIENDLY INTERVENTIONS

2. Objectives of the Practice

A Green Campus is a place where environment friendly practices and education combine to promote sustainable and eco-friendly practices. The green campus concept offers an institution the opportunity to take the lead in redefining its environment culture and developing new paradigms by creating sustainable solutions to environmental, social and economic needs. Guru Jambheshwar University of Science and technology has been established on the principles of Guru Jambheshwar Ji Maharaj, who envisioned in fifteenth century the need of saving nature and initiated the sect to preach and follow the path of harmonious growth with the nature. Guru Jambheshwar University of Science and Technology came into existence on October 20, 1995 on a barren desert. Today the university is standing on three hundred seventy-two acres of lush green land. The University is committed for the protection of environment and conservation of natural resources, while ensuring quality of life on the campus, through adoption of innovative practices and action plans. The objectives of the practice are

- Promote environmentally responsible practices and behaviour
- Reduce inefficiencies in use of water and energy, reduce waste, promote local greenery
- To conserve biodiversity and reduce heat island effect, improve water holding capacity
- Promote alternative sources of energy, and achieve considerable resource savings

3. The context

The university has established on the preaching's of Guru Jambheshwar Ji Maharaj, practices that contribute in making an eco-friendly campus namely Conservation of water, control of Air & Noise pollution, Land, Parking, preservation of Flora & Avian Fauna, Solid Waste Treatment, Nursery, Solar Systems etc. has been adopted.

4. The Practice

Tube lights have been replaced with LED lighting fixtures; older fans replaced with more energy-efficient fans (from 200 W to 60 W). The Solar power plant with the capacity of 1MW has been installed and commissioned in the campus. Rooftop solar plant's implementation and management has been outsourced to a Jakson Power Limited company under PPP mode. Passive building design strategies, energy efficient

fixtures, renewable energy generation, high tree density on the campus and around it helps bring down the ambient temperatures.

Water—GJUST has adopted responsible water management via rainwater harvesting, wastewater treatment systems, Water efficient fixtures are installed in the campus. The campus has adopted a mechanism of channelling rainwater towards large and open areas—the purpose is to enable maximum percolation of the rainwater into the ground. Rooftop rainwater is directed to the wells through a harvesting pit.

Wastewater management: GJUST has its own wastewater treatment facility, with a current capacity of 2.5 million litres daily (MLD). The capacity can be increased to 5 MLD in future if required. The treated water is used for irrigation in the campus and dual plumbing system in all the newly constructed buildings.

Land—GJUST has taken initiatives to maximise benefits from the available land. The University is home to a variety of plant species and trees. The campus has devoted a large area to plantations covering 294 acres out of 372 acres. The key features of the campus are shaded walkways, decorative trees, and well landscaped and maintained lawns. The University organizes five to six tree plantation drives through NSS, Swachh Bharat Swasth Bharat Abhiyan, NCC, etc annually.

Air—Air quality is maintained through green mobility and plantation. The University has 22000 fully grown trees of 51 species, 7000 semi grown trees, 15000 hedges plants along with 28 species of ornamental bushes

E-rickshaws: The University has its own five E-rickshaw to aid mobility of the staff and students.

Green infrastructure: Provisions like tree-lined and shaded cycle tracks and bicycle stands have been built along all the main routes on the campus.

Waste—Waste Segregation, inorganic waste management, organic waste treatment, educating students regarding waste segregation, single-use plastics, etc. and policies are adopted by the University for solid waste minimization and management.

5. Evidence of success

Energy: The initiative of installation of LED and rooftop Solar Plant has led to a cost benefit of approximately Rs. 5 lakh in energy bills each month. It has also reduced on

dependence of external supply of electricity. The University nursery has fifteen pits for vermi-composting with a capacity of 1 Ton in every six month and 30 pits for simple composting to meet the campus requirements.

6. Problems Encountered and Resources Required:

Automization for the process of segregation of domestic/campus waste is required for judicious disposal of different kinds of waste. There is a requirement of Road sweeping/sucker machine for cleaning of all the campus roads.