

**7.2.1**

**BEST PRACTICES  
SUCCESSFULLY IMPLEMENTED  
DURING THE YEAR  
JUNE 2020- DECEMBER 2021**



## **BEST PRACTICE -1**

### **Title of the Practice-**

Hon'ble Late Shree **Jaywant Rao Bhosale Innovation and Incubation Centre (JBIIC's)** -  
Innovation Gallery of the Patented Products

### **Objectives of the Practice:**

- To inspire the students and faculty members for the translational research and innovations in the field of medicine, medical technology, pharma and other allied domains in healthcare sector.
- To provide interdisciplinary platform that creates a safe anchorage for novel ideas in the healthcare domain.
- To provide opportunities for individual researchers and group collaboration across all the disciplines of science and technology to foster a culture of innovation through the ideation, creation, testing and validation of research concepts.
- To offer a unique and highly flexible combination of infrastructure, mentorship and entrepreneurship development processes to nurture start-ups in med-tech domain.
- To provide innovators with access to expert advisors, mentors, administrative support, workshops/training programs and funding support from government and non-government funding agencies.
- To establish a strong link between academics, research, industries and end-users.
- The ultimate goal is to make Intellectual Property Rights (IPR) Cell self-sustainable during next 10 years by generating financial resources from commercialization activities.

### **The Context:**

There is a critical need to accelerate the innovation and technology in med-tech domain for developing cost-effective healthcare solutions which is paramount to India's long-term economic stability. Moreover, the current COVID-19 pandemic put tremendous pressure on healthcare service providers particularly for diagnosis, treatment, prevention of the infections and availability of resources to treat the patients. KIMSDU believed that the major limitation



**KRISHNA  
INSTITUTE**

OF MEDICAL SCIENCES  
DEEMED TO BE UNIVERSITY

Knowledge • Innovation • Excellence

Accredited by NAAC with 'A+' grade  
An ISO 9001:2015 Certified University

Declared U/s 3 of UGC ACT 1956 vide Notification no.F9-15/2001-U3  
of the Ministry of Human Resource Development, Govt. of India

Karad, Dist. : Satara (Maharashtra State) Pin : 415539

Tel : 02164-241555-8 (Extn. 462) Fax: 02164-243272/242170

Website : [www.kimskarad.in](http://www.kimskarad.in) | E-mail: [registrar@kimskarad.in](mailto:registrar@kimskarad.in)

to our healthcare section is the dependency on developed nations for the advanced technologies in healthcare sector and this, many times has put India as a nation in stressful situations. Therefore, this technological crunch highlights the importance of inculcating the research mindset and creativity among the students and faculty members for the research and innovations in the healthcare domain to support the 1.3 Billion population.

In this context, KIMSDU has established the JBIIC-Innovation Gallery to inspire the learners to come forward and do research and innovations to upgrade the indigenous healthcare solutions at affordable price.

### **The Practice:**

All the innovative ideas of the students and faculty members will first be acknowledged by the IPR Cell and then go through the standard process:

1. The primary screening and evaluation of the proposal/ proof of concepts (PoC) by the IPR Cell based on the research area, rationale, conventional alternatives with limitations, technical know-hows and proposed novel approach.
2. Inventor mentoring by IPR committee for the improvement of primarily rejected PoC to make it scientifically strong and feasible and help them to write the proposal.
3. All the selected proposals will be sent to the authorized person for patentability search.
4. IP filing for the patentable proposals
5. Prototypes shall be prepared for the IP protected research products/ideas
6. The required testing, validation, certifications and licencing of authorised agencies shall be undertaken for the IP protected technology.
7. Display of final prototype/product at innovation gallery and/or tech-shows for showcasing of technologies to the students, researchers, start-ups and investors.
8. Tech transfer and/or commercialization of technologies
9. Revenue generated through this process will be further utilized for the research and innovations to make this venture self-sustainable.



### Evidence of Success-

- KIMSDU has a very clear vision in creating new knowledge through scientific research which can reach the masses and impact our society. The knowledge is an intellectual asset and needs protection. Hence, KIMSDU has taken the necessary steps to create an Intellectual Property Rights (IPR) cell, through which the foundation for innovation has been laid down in the University.
- KIMSDU has got substantial outcome in IPs: Patents (Granted- 19, Filed-47), 23 Designs awarded and 441 copyrights registered.
- Total 56 working prototypes/products have been displayed at innovation gallery.
- All the students and faculty of KIMSDU and visitors from academic, research and various industries have visited the gallery.
- Visitors from industry approached for the tech transfer and commercialization of research products. The 7 research products are:

Technology	Company
Physically Restraint Movement Belt	R2E Technologies Pvt. Ltd.
An injection guide	Plastic Paradise Molding Works Ltd.
Simulation Training Device	GI India Automation & Systems Pvt. Ltd.
An orthotic device for supporting a shoulder joint of a user	OpEx Accelerator Pvt. Ltd.
Customised ankle foot orthotic device	OpEx Accelerator Pvt. Ltd.
K- Bio Mask	K Sales and Services
UV-SEVAK 360°	NBE Tech, Pune

### Problems Encountered and Resources Required:

#### Problems encountered:

1. Lack of mentoring and skills in engineering tools
2. Availability of materials and tools for prototype fabrication
3. Limited access to certified labs for the validation and certification of the prototypes/products



**KRISHNA  
INSTITUTE**

OF MEDICAL SCIENCES  
DEEMED TO BE UNIVERSITY

Knowledge • Innovation • Excellence

Accredited by NAAC with 'A+' grade

An ISO 9001:2015 Certified University

Declared U/s 3 of UGC ACT 1956 vide Notification no.F.9-15/2001-U.3  
of the Ministry of Human Resource Development, Govt. of India

Karad, Dist. : Satara (Maharashtra State) Pin : 415539

Tel : 02164-241555-8 (Extn. 462) Fax: 02164-243272/242170

Website : [www.kimskarad.in](http://www.kimskarad.in) | E-mail: [registrar@kimskarad.in](mailto:registrar@kimskarad.in)

---

**Resources required:**

1. Fabrication facility for prototype design and making
2. Research laboratories for testing and validation of the product



## **BEST PRACTICE 2**

### **Title of the Practice:**

### **“Enhancement of Water Conservation Management”**

### **Objectives:**

1. To create a “water-secure” campus.
2. To prevent water pollution and water borne diseases.
3. To improve water management facilities in adopted rural villages.
4. To conserve water and energy.
5. To promote optimum utilization of water.
6. To maintain optimum ground water levels.
7. To have a cost-effective and environmentally sound water practice in the campus.

### **The Context:**

India is among the world’s most water-stressed countries. Competition over finite water resources compounded by climate change, will have serious implications for food security, farmer livelihood and economic development.

The Institute, Krishna Hospital and hostels need fresh water for various purposes like domestic use, laboratory, green belt maintenance, washing, laundry, etc. Total water requirement of KIMSDU is about 7,50,000 litres per day.

The campus is dependent for water supply on pumped water through Krishna River, 7 Bore wells and some part is supplied by Malkapur Municipal Council.

Due to increase in students and employee strength daily requirement of water is proportionally increasing. In order to maintain a “water-secure” KIMSDU campus through in-house resources it is necessary to have adequate water conservation facilities and effective water recycling. Considering the objectives water management and conservation in KIMSDU is in good condition.



### **The Practice:**

- A. **Water Wastage:** KIMSDU is aware of the responsibility and does regular check for identifying water leakages or wastages.
- B. **Trade Effluent:** The treated effluent meets the norms laid down by regulatory authorities. The institute is carrying out third party testing for trade and domestic effluent.
- C. **Domestic Effluent:** The raw sewage from various sources like toilets, canteen, etc. are collected through a common drain line and collected in a collection tank.

#### ➤ **Water Management:**

##### **A. Liquid waste management:**

##### ❖ **Sewage treatment plant (STP): -**

In campus there are two STP's installed which has the capacity of 500 KLD each. Liquid waste generated from hostels, hospital, canteen, medical college & from overall campus is treated in Sewage treatment plant.

##### **Effluent treatment plant (ETP): -**

This plant has been installed to treat the chemical waste water generated from labs and laundry. The capacity of this plant is 100 KLD.

##### **B. Storm Water and Rain Water Harvesting Systems:**

KIMSDU has implemented full-fledged rain water harvesting plant in an area of 15,000 sq. ft.

Inside the campus there is strong network of storm water drains which ensures that there is no flood like situation in the campus during peak rainfall.

### **Evidence of Success:**

- **STP:** Daily sewage treated into these plants is 1000 KLD. The efficiency of these plants is 90%. The treated water is then used for gardening purpose. This has resulted in a huge water saving initiative as well as for a greener campus through recycled water usage.



- **ETP:** Approximately 45 KLD of effluent daily is treated daily. The efficiency of this plant is 90%.
- The untreated and treated water and domestic effluents are tested on monthly basis through NABL accredited third party.
- The rain water can be harvested to the extent of 50,000liters/100sq.m. area per year from roof tops in campus.
- Increased water level in and around campus.
- Significant reduction in excess rainwater flow contributing to substantial recharge of ground- water.
- At present there are no leakages or over usages of water identified.
- KIMSDU has been recognized by Mahatma Gandhi National Council of Rural Education (MGNCRE) as “**Green Institutional Mentor**” for exemplary performance in water and sanitation management.
- KIMSDU is now recognized “**Social Entrepreneurship, Swachta & Rural Engagement Cell Institution**”
- KIMSDU has been recognized by MGNCRE as “**District Green Champion**” for Satara District for the academic year 2020-21 for exemplary performance in Sanitation, Hygiene and management of water, energy, greenery, waste.

#### **Problems Encountered and Resources Required:**

The actions dedicated for sustaining a green campus call for investment of resources and integration of efforts. Rain water harvesting for ground water recharge, and sewage and effluent water treatment plants needed expert advice and investment of resources.

Selection and preparation of sites for various buildings called for expertise.

Attention to these details did cost many a resource. However, the positive outcome has been magnificent buildings and office blocks that blend harmoniously into the landscape. Maintaining green campus requires constant monitoring and man power.

#### **Notes:**





# KRISHNA INSTITUTE

OF MEDICAL SCIENCES  
DEEMED TO BE UNIVERSITY

Knowledge • Innovation • Excellence

Accredited by NAAC with 'A+' grade  
An ISO 9001:2015 Certified University

Declared U/s 3 of UGC ACT 1956 vide Notification no.F.9-15/2001-U.3  
of the Ministry of Human Resource Development, Govt. of India

Karad, Dist. : Satara (Maharashtra State) Pin : 415539

Tel : 02164-241555-8 (Extn. 462) Fax: 02164-243272/242170

Website : [www.kimskarad.in](http://www.kimskarad.in) | E-mail: [registrar@kimskarad.in](mailto:registrar@kimskarad.in)

This exercise can be executed by any educational establishment, especially those with large campuses by crafting a comprehensive master plan and involvement of staff & students.

**REGISTRAR**  
Krishna Institute of Medical Sciences  
"Deemed To Be University", Karad