<u>**Best Practice-1:**</u>

Title of the practice

    Industry Institute Partnership cell IIPC

Capable human resource is the major source of strength in nation building.The success of the industry mainly depends on the quality of people who work in them. Industry institute partnership cell is the program aimed to encourage interaction between industry and institute to increase the employable human resource.

Objectives of the practice

- The purpose of the IIPC is to promote continuous interaction with industry so as to bridge the gap between industry expectations and academic outcomes.
- To create awareness among the students on societal challenges.
- Exchange of knowledge.
- To increase the placement opportunities.
- To improve consultancy.
- To promote industrial training for students to get hands-on experience.
- To utilize the available resources such as laboratories to the extent possible.
- To identify industry problems and provide solutions.
- To refine the syllabus according to the needs and developments.
- To increase the availability of employable manpower.

The context

Industry is dynamic with vast developments in different areas. Skill development is possible only with the industry institute interaction. Industry-academic interaction is an important process which can provide necessary inputs to the academic institute to build competencies required by faculty and students.The Institutions gain up to date curricula, source of revenue generation by consultancy, source of manpower for employment, societal relevance, and most importantly acquisition of brand name.Facultyalsogain exposure to latest industry practices for more effective teachinglearningprocesses.Students gain by way of hands-on training and society gains by way of improved quality of goods and services. To meet the needs of the employer and to mould the

students as per the requirements of industry, it is necessary to have an industry institute interaction.

The practice

The students are encouraged towards the internships during summer vacation. The final year students are encouraged to do their final projects in the related industry i.e construction or production. Industry and alumni are considered as one of the stake holders and one of the members in the board of studies. This helps in the refinement of the syllabi according to the needs of the society and latest technological developments. Alumni meets are conducted regularly to bridge interaction with alumni employees in different industries. This helps in the updating the students according to the requirements of the industry. The institute signs MOUs with industries which helps in knowledge transfer for industry readiness. Technical students are taken to field trips and industrial tours to create exposure on field requirements, steps in the manufacturing process and different stages involved for the product output. Management students are encouraged in industrial visits where they are educated in different managerial skills. IIPC plays a pivotal role in getting consultancies and placements from different organizations.

Impact of the practice

- Increase in the number of placements.
- Bridging a sound co-ordination with the industry.
- These activities help in giving a confident output that can face the societal challenges more effectively.
- Increase in consultancies.
- Increase in qualified faculty.
- Increase in effective teaching and learning process.

Problems encountered and resources required

Some of the students especially girl students are not sent to the industrial visits or internships by the parents due to the fear of sending the child to an area other than the college. The parents of the students are motivated by educating them on the importance of industry awareness and the safety precautions taken at the time of industrial tours and visits. This helped in the increase in the overall participation.

To implement this practice it is essential to have good laboratories to do consultancies obtained from industries. Interaction with Alumni working in different industries should be maintained by conducting regular alumni meets, which helps increased industrial contacts. It is required to have a qualified and trained faculty to train the students up to mark. Institute location should be insuch a way that it provides easy access to the industry people. It is essential to provide resources such as smart classrooms, latest software and ICT enriched classrooms to encourage effective teaching and learning process.

Best Practice-2:

Integration of Information and Communication Technology(ICT) resources into Classroom teaching

Introduction:

The Information and Communication Technology to be precise has become a driving force behind economic growth and a developmental tool as well.

ICT is an extended term for Information technology which is a technological source to make information available at the right time, right place in the right form to the right user. Earlier, one had to wait for the newspapers to get the information across the world. Now with the smarter technology, information can be accessed from anywhere using smart phones and gadgets. All this is made possible with the help of Information and Communication Technology. Information technology has been influencing our lives in the recent years in the fields of education, healthcare, and business. Going an extra mile, Information and communication technology in Institution has had a major impact.

Characteristics that make ICT in education a prominent communication tool:

- ➢ It offers the wide variety of services.
- ➢ It is reliable and provides interactive learning experiences.
- ➢ It is flexible and provides comfortable learning.
- ➢ It motivates students to learn.
- ➢ It facilitates communication and promotes creativity.
- ➢ It also provides access to the digital library where information can be retrieved and stored beyond textbooks.

Aims and Objectives of ICT implementation in education:

1. To implement the principle of life-long learning / education.
2. To increase a variety of educational services and medium / method.
3. To develop a system of collecting and disseminating educational information.
4. To promote technology literacy of all citizens, especially for students
5. To promote the culture of learning at institution (development of learning skills, expansion of optional education, open source of education, etc.)
6. To support Institution in sharing experience and information with others.

The Context

In this technological era, ICT in education has compelled many higher education institutions to get accustomed to smart technology. This communication software uses computers, the internet, and multimedia as the medium of communication which helps the students for an advanced learning by using the specific instructional strategies and techniques.ICT Encourages participatory learning and student centric learning wherein the mode, technique/method and the pace of learning are decided by the students. Some of the instructional strategies of ICT are mentioned here under:

Computer-based learning:

Internet:

Classroom Learning:

Video conferencing:

Activity:

ICT facilities are adequately available in the institution for academic purposes. There are well equipped computer laboratories in the institution. The departments have their own computer facilities along with printers. Apart from computer facilities in the departments, Digital library facility is also there. Computers having internet connection facilities. 60 MBPS leased line for internet access is extended to the entire campus. Campus networking is with Fibre Optic cables. Classrooms are equipped with audio visual aids to cater to the needs of the students.

ICT Infrastructure:

The ICT infrastructure includes Facilities for e-learning, e-content development, Digital Library. Wi-Fi internet availability and a good number of Workstations and LCDs.

The institution has introduced massive online open courses by using ICT aids for courses like IOT, Python Programming. As a part of this initiative video lectures by expert academicians from premier institutions of higher learning like IIT Kharaghpur are arranged. Students are getting the benefit by way of interaction (passive) with experts to enhance their learning capability.

Evidence of Success:

Students would be able to know and understand practically how IOT (Internet of Things) with Rasp-berry Pi works. For example Students can work on their academic projects on IOT like Smart dustbins, Smart water level equipment etc.,Students of degree and engineering are encouraged to do specific projects with the help of IOT Like Online Temperature Measurement for characterizing heat transfer enhancers, impact energy measurements for calibrating force transducers.

Some of the IOT based projects done by the Engineering students are:

- ➢ Automated Street Light Management System
- ➢ Ultrasonic & Laser enabled visually impaired guiding system
- ➢ Smart Helmet
- ➢ Smart Parking system
- ➢ Automatic Plant watering by soil moisturing detection
- ➢ College Bus parking system
- ➢ Hybrid Power generation system

Problems encountered and resources required:

One significant problem students are faced with is disconnectivity (connectivity may be missed out) to the concept during the session, if they are not attentive. Another problem is, students can't ask doubts while programme is running as it was a pre-recorded video lecture. At the same

time slow- learners can't grasp the teaching method to the desired level of understanding. There are lot of problems like server errors and connectivity problem which take oodles

(Heavy, Plenty) of time to trouble shoot it , Therefore hindering the learning process which can sometimes be a matter of frustration both for the learners and teachers.

Conclusion:

The use of ICT in education adds value to teaching and learning, by enhancing the effectiveness of learning. It added a dimension to learning that was not previously available. After the inception of ICT in Institution, students found learning in a technology-enhanced environment more stimulating and engaging than in a traditional classroom environment.