

2.3.1 - Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences

Additional Information and supporting document

The Institute makes continuous and conscious efforts to enable its students to realize their potential and evolve as leaders and transforming agents of society. The basic focus of the institute is Student Centric Approach; to achieve the institute is gradually adopting OBE framework along with CBCS which is in-line with the vision of the parent University. The curriculum of each programme ensures that students receive a sound theoretical foundation as well as excellent hands-on learning with the development of analytical and problem solving and design thinking skills. Some of the prominent features could be illustrated as below:

Programmes offered have scope for interdisciplinary learning and research which can be seen in areas like (but not limited to) Robotics, IoT, AI, Big Data Analytics, Information Security, Cyber Security etc. There is a clear interaction across disciplines through not only project-based learning approaches in certain courses but also in the form of Programme Electives, Open Electives/ Other Electives.

Pedagogy includes a fair bit of innovation such as the use of flipped classroom model, MOOCs with proctored exams, project-based courses with simultaneous emphasis on theory and practice, group projects and presentations for fostering peer-learning, research seminars, team building and interpersonal communication, use of LMS and communication platforms

Through the joint efforts of teachers and students, innovative teaching practices are implemented as a continuous learning process. The university's regulations and curriculum structure are designed to support the learning experience. Experiential learning, participatory learning and problem solving methods have been integrated in the entire teaching process

The Institute adopts a student-centric teaching and learning approach. Teachers conduct internal evaluations based on problem-solving methods/case studies/creative assignments, etc. The curriculum structure of various programs also provides a series of practical subjects and a series of elective subjects for students to choose from their fields of interest. These elective courses enable students to develop professional knowledge in their areas of interest. These elective courses are designed according to industry development and requirements. These courses prepare students to adapt to the real world and become more employable.

In addition, most of the departments provide major/minor projects in the form of academic research projects/industry-oriented projects/dissertations, which are mandatory requirements for the curriculum. This enhances experiential learning and provides students with practical opportunities. In addition to lectures and tutoring, students also participate in group discussions, group projects, individual projects, internships, field work, etc. All these activities are aimed at experiential learning, participatory learning and collaborative learning in an efficient manner.

Industrial interaction is in the form of well-known speakers from industry, academic/research organizations and other fields. Industry visits, entrepreneur development programs, etc. are regular functions of most programs provided by the Institute.

In order to impart innovative educational practices, the basic focus of the Institute is to regularly improve teaching methods. This is done through a strong training culture, the establishment of knowledge inquiry capabilities, and a challenging platform for students to develop innovative methods of learning and practice. The Institute uses a variety of technologies to ensure student-centered learning, thereby increasing student participation and motivation:

In teaching pedagogy various activities like Group Discussions , Role Plays , Projects , Internships , Industrial Visits , Group Learning , Case Studies , Presentations , Field Visits , workshops , seminars , personal counselling etc. are used for enhancing learning experiences



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Subject Name : Database Management System

Academic Session : 2020-21

Experiential Learning & Problem Solving Methodologies: Activities to be conducted

1. Case Study –
 - a. To prepare an extended ER diagram for “**National Hockey League**”.
 - b. To use the concepts of generalization and specialization in ER diagram for “**Trains and their Stops at Railway Stations**”.
 - c. To develop a cost-effective plan for join operations on the given tables – **Student, Teacher, Course, Enrolled_in, Teaches**
 - d. To decompose a given relation **Patient_Data** into highest normal form.
2. Lab Assignments –
 - a. Write SQL queries (DDL) to implement the ER diagram for the given case study.
 - b. Write SQL queries to implement the concept of generalization.
 - c. Write appropriate join queries in SQL to retrieve required data from decomposed relations

Participative Learning: Activities to be conducted

1. Group & Individual Presentation –
 - a. Generalization vs. Specialization
 - b. Aggregation
 - c. Integrity Constraints
 - d. 3NF vs. BCNF
 - e. Locking Protocols
2. Group Discussion –
 - a. Types of Anomalies
 - b. Advantages and limitations of locking protocols
 - c. DBMS and DDBMS (Distributed DBMS)
 - d. Applications of DBMS and types of users
 - e. Armstrong's Axioms
3. Quiz