5.5. Innovations by the Faculty in Teaching and Learning   (20)

Innovations by the Faculty in teaching-learning shall be summarized as per the following description. The faculty contribution in teaching-learning process leads to the improvement of student learning. These activities may include innovations not limited to, use of ICT, instruction delivery, instructional methods, assessment, evaluation and inclusive classrooms that lead to effective, efficient and engaging instruction. Any contributions to teaching and learning should satisfy the following criteria:
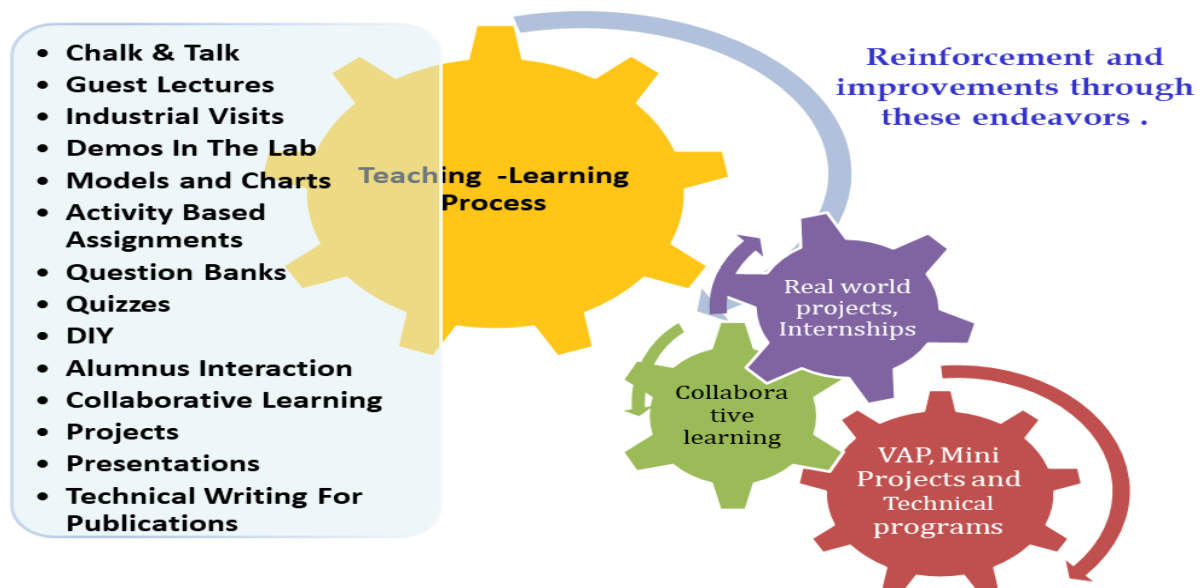
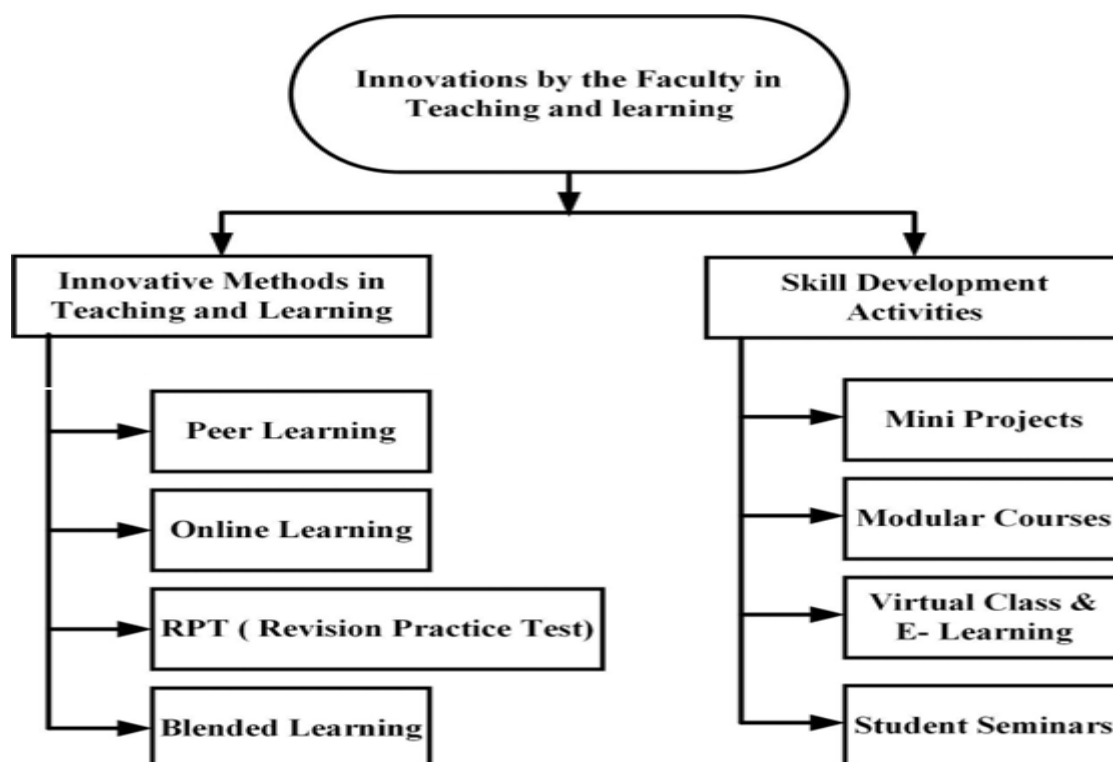The work must be made available on Institute website

The work must be available for peer review and critique

The work must be reproducible and developed further by other undergraduate students

The department/institution may set up appropriate processes for making the contributions available to the public, getting them reviewed for rewarding. These may typically include statement of clear goals, adequate preparation, use of appropriate methods, and significance of results, effective presentation and reflective critique. Department encourages its faculty to bring innovative methods of teaching- learning within the ever-evolving environment of digital scenario where great deal of e-content is out there through the educational sites. In the meantime, faculty also strengthens the traditional teaching-learning process by improving the delivery and effective transfer of data utilizing all modern technologies.

STUDENT CENTRIC TEACHING - LEARNING PROCESS

- Chalk & Talk
- Guest Lectures
- Industrial Visits
- Demos In The Lab
- Models and Charts
- Activity Based Assignments
- Question Banks
- Quizzes
- DIY
- Alumnus Interaction
- Collaborative Learning
- Projects
- Presentations
- Technical Writing For Publications

Teaching -Learning Process

Reinforcement and improvements through these endeavors .

Real world projects, Internships

Collaborative learning

VAP, Mini Projects and Technical programs

Initiative Method	Process	Outcomes	Supporting Information
Peer Learning	• Identification of Student mentors based on Academic Performance • Mentors Support mentee, who are lagging in academics.	• Mentors are going to perform better in their academics .• Leadership quality is developed among the mentors.	
Online Learning	• Students are motivated to learn from NPTEL, Coursera etc., • The students are evaluated on a common learning	• The students can learn globally, be confident competitive and ready to solve realistic problems	

	environment.		
Modular Courses	• Add-on courses are supplementing the regular curriculum of Undergraduates • To provide hands-on-training in specific skills. • Get chance to improve skills by doing add on courses with industry and global collaborative universities.	• The students are being exposed to PLC Programming and PCB which helps them understand trending upcoming technologies.	
RPT(Revision, Practice, Test)	• Revise the topics unit wise by the faculty. • Practicing topics by the students Conduct the test after practicing the topics by students	• To make students to pass in the university end examinations	
Blended Learning	• Blended learning is an approach to education that combines online educational materials with face to face interaction. • It provides more opportunities for interaction online with traditional classroom methods.	• Access to global resources and materials that meet the students' level of knowledge and interest. • Self pacing, for slow or quick learners reduce stress, increases satisfaction, better information retention.	

| Student Seminars | • The overall objective of this program is to motivate students for Self-learning and peer learning process. | • This practice improves Listening and speaking skills.

• The communication skills get build up through oral communication in seminars.

• Student takes responsibility while working in a team.

• Sharing of knowledge uplifts while preparing.

• Students learn time management skill.

• Students learn to share, negotiate and convince in the feedback Session.

• For delivering seminars students prepare, produce and use apt visual aids for effective presentation. | |

Virtual Class Rooms & e-Learning	• Voluntarily a paradigm shift has taken place in the field of education and we flipped to online teaching and testing to fill the gap due to COVID-19 pandemic• Virtual platforms like ZOOM are used to interact with a whole and led the virtual class room successfully	• No deviation of academic calendar• Both faculty and students experienced direct interaction thus able to beat COVID-19• It is observed that absenteeism is minimized during these sessions	
Mini Project	• Students are encouraged to identify the problem related to in and around the society and the problem is solved with the help of laboratory resources and faculty guidance.	• It creates ample opportunities to transform the theoretical knowledge into working models.	

Table B. 5.5a Innovative practices undertaken by the faculty members for improving teaching and learning process Content beyond syllabus:

Co-curricular & Extra-curricular activities:

Table B. 5.5b Co-curricular & Extra-curricular activities details

S.No	Name of the Events	Programme Outcomes	Programme Specific Outcomes
1	Quiz	PO9, PO10, PO12	PSO1, PSO2
2	Poster/Paper presentation	PO9, PO10, PO12	PSO1, PSO2
3	Project Expo	PO3, PO6, PO9, PO10, PO11, PO12	PSO1,PSO2

Impact Analysis: 1. The quality of teaching is very much exhibited in terms of attaining POs, PEOs to the extent of 70-80%.

2. The academic outcome is more than 70% students are completing their course within the stipulated time of four years.