# **Innovative Teaching Practices**



For any feedback/suggestions, sent email at it@gndec.ac.in

## Innovations by the Faculty in Teaching and learning

## **Use of Teaching-Learning techniques**

- Incorporating the maxims of teaching such as known to unknown, whole to part, concrete to abstract etc., into Teaching Learning process as much as possible to make it more effective.
- Adapting to different learning styles of students such as verbal, visual, kinaesthetic, interpersonal etc., while planning the Teaching Learning process as much as possible.
- Activity based learning such as group task, student seminar etc.
- Assigning a topic to the group of students and guiding them to give presentations.

Pedagogical Initiatives	Use of ICT	Mentoring students with backlogs	Special classes to 3 <sup>rd</sup> and 4 <sup>th</sup> year students	Software trainings	Expert talk
<ul> <li>Incorpor ating the maxims of teaching</li> <li>Adopting to different learning styles</li> <li>Activity based learning</li> </ul>	<ul> <li><u>U</u>se of MOOD LE for Access to study material and question bank</li> <li>Online quiz</li> <li>Encoura ging students to use internet facility</li> </ul>	• Encoura ging peer teaching	<ul> <li>Prepar ing for GATE exam</li> <li>Gener al Aptitu de – quanti tative, verbal ability etc.</li> </ul>	<ul> <li>Worksh ops</li> <li>FDPs</li> </ul>	<ul> <li>Facul ty semin ars</li> <li>Lectu res from Indus try exper ts</li> </ul>

## **Innovative Practices**

- 1. Use of e-resources and ICT
- Providing quick access to the Instructional material, PPTs, Question Bank etc., by hosting them on the MOODLE platform on the Department website to help students to learn the concepts at their convenient time.
- Conducting online Quiz on MOODLES through Institution website.
- Motivating the students for using Internet facility available in the department for deeper inquiry into the subjects.

- 2. Mentoring students with backlogs
- Mentoring students with backlogs by concerned subject faculty before supplementary examinations
- Encouraging Peer teaching to enable students to attain self-learning skills.
- 3. Encouraging Advanced learners
- Encouraging the students to give presentations on recent advances in Information technology and computer engineering, related to the concerned subject.
- Conducting special classes to 3rd and 4th year students for GATE
- Conducting Mock GATE examinations for 4th year students
- Conducting General Aptitude classes for 3rd and 4th year students to enhance their employability skills.
- 4. Software Trainings
- Organizing workshops/training programs on Software Development, DevOps, Machine Learning, Deep Learning, Artificial Intelligence and other relevant areas to make our students industry ready.
- Organizing FDPs/Workshops to faculty on new software and Sponsoring faculty for FDPs/Workshops at higher learning Institutes, which will indirectly benefit the students in the Teaching Learning process.
- 5. Covering Topics beyond curriculum
- Faculty seminars / lecture from experts from Industry on topics beyond curriculum in each course in regular class work.
- Organizing student seminars on topics beyond curriculum.
- Demonstration of advanced topics beyond curriculum by referring research journals and NPTEL materials.
- 6. To help students monitor and reinforce their learning
- Conducting class tests from a previously circulated Question bank.
- Guiding the students to solve previous GATE problems.
- Demonstration of advanced topics beyond curriculum by referring research journals and NPTEL materials.

### Name of Innovation: Game Based Teaching, Hangman

Hangman is a guessing game for playing in a team or as a single player. The student needs to think of a word, phrase or sentence and try to guess it by suggesting letters within a certain number of guesses. It was originally a Paper-and-pencil game, but with the advent of Moodle based LMS, this innovation is incorporated as a part of teaching learning technique.

Initially, glossary of significant terms is created in Moodle based LMS. The glossary items chosen here are the important concepts of Business Intelligence Applications. The attempts are given to student depending upon the word length of glossary item.

#### **Expected Outcomes:**

- To learning while playing
- Improvement of subject knowledge
- Game-based learning will help students with significant increases in retention, collaboration, and creativity
- To create more positive working relationships within their teams.
- To promote innovation, creativity, life-long learning and problem-solving skills among students.

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Торіс	Industry code of Conduct
Teaching Method Proof of activity	Assumption Busting: Assumption busting is particularly effective when one is stuck in current thinking paradigms or has run out of ideas. Everyone makes assumptions about how the world around us works, which in creative situations, can prevent us from seeing or generating possibilities. Deliberately seeking out and addressing previously unquestioned assumptions stimulates creative thinking.
Outcome	Students learnt about Industry ethics which results in increasing knowledge and confidence.

Торіс	Realization of OR, AND, NOT and XOR functions using universal
	gates
Hardware	IC's 7400 and 7402, Digital kit, Breadboard
Requirements	
<b>Teaching Method</b>	<b><u>Peer Teaching</u></b> : One student was given instructions by the tutor and
	then he/she taught a group of 5 students who were absent in the
	previous lab.
Outcome	Students learnt about teamwork (giving instructions to team members)
	which helps in increasing their confidence and communication skills.

Торіс	Karnaugh map Minimization
Teaching Method	Flip the Classroom: students review lecture material at home and work on projects and assignments in the classroom
Proof of activity Outcome	This activity helped in personalized addressing as students were busy
Guttome	in solving assignment and there was flexibility to address the doubt of every student. Students also understood the concept very precisely.



Teaching Method	<b>Directed Discussion:</b> Class discussion that follows a predetermined set of questions to lead students to certain realizations or conclusions, or to help them to meet a specific learning outcome.
Activity	Direct, specific, or open-ended questions that are connected to learning outcomes and include varied cognitive processes.
Proof of activity	
Outcome	<ol> <li>Development of critical thinking and problem-solving skills</li> <li>Self-confidence</li> <li>It allows students to become better acquainted and thus facilitate their communication with one another.</li> </ol>