



Society for Computer Technology and Research's  
**Pune Institute of Computer Technology**  
**Department of Electronics & Telecommunication Engineering**  
**Innovative –Teaching Learning methods**

Innovations by the faculty in teaching and learning shall be summarized as per the following description. Contribution to teaching and learning are activities that contribute to the improvement of student learning. The unique and efficient practices in Indian higher education are use of ICT, which may include:

1. **Quizzes** can track, report, and evaluate learning progress and outcomes of students. We can test students anytime, anywhere, at home, or even on the go on multiple devices – whether that's a smartphone, tablet, laptop, or desktop device. **To** provide instant grading and dynamic feedback to address common misconceptions and errors, reinforce key points, and close knowledge gaps. Randomize questions and answers quickly to prevent cheating. In our institute, we use various platforms like Moodle, teacher corner etc.
2. **Simulation-based** education is the pedagogical approach of providing students with the opportunity to practice learned skills in real-life situations. Educational simulation is a teaching method that tests students' knowledge and skill levels by placing them in scenarios where they must actively solve problems. The instructor defines the parameters to create a safe environment for hands-on learning experiences. Many of our instructors use online/offline simulators to understand theoretical and practical concepts.
3. **Case study teaching** involves the use of real-world situations as a basis for learning. It mostly relies on students to explore the topic and use critical thinking to come to a solution, decision, or action, rather than relying on instructors to explain the problem or issue and report the solution. The instructor presents students with a problem or issue, which typically includes more information than necessary to solve the problem - just like real life. The instructor also provides supporting materials that will be useful for understanding and making decisions about the case, such as data graphs, websites, journal articles, images, figures, or videos. Alternatively, students can be tasked with finding these resources. The instructor also presents questions before, during, or after class to get students thinking about the case, and structures discussion about the case with questions or prompts.
4. **Project Based Learning** is a dynamic classroom approach in which students actively explore real-world problems and challenges and acquire a deeper knowledge. In Project Based Learning, teachers make learning come alive for students. Students work on a project over an extended period of time – from a week up to a semester – that engages them in solving a real-world problem or answering a complex question. They demonstrate their knowledge and skills by creating a public product or presentation for a real audience.
5. **Flipped Classroom** students complete learning normally covered in the classroom in their own time (by watching videos and/or accessing resources), and classroom time is dedicated to hands-on activities and interactive, personalized learning, leading to deeper understanding. Students use class time to apply the theory and concepts discussed in the videos, and to utilize techniques including group problem-solving and team building games, simulations, case study reviews, and group discussions.