

COLLEGE OF ENGINEERING FOR WOMEN, PUNE

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Fig: - Innovative Teaching Learning Practices



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Innovative Teaching Learning Practices

We would like to inform you that various Teaching-Learning Practices are being implemented in our college to enhance student engagement and improve learning outcomes.

The details of these practices are provided in the attached document.

We kindly request you to review the document and share your valuable feedback and suggestions for further improvement.

The feedback link given at the end of document.

Title:- Think Pair Share

Objectives:-

- To promote active learning and thinking.
- To encourage student participation and collaboration in the classroom.
- To help students organize their thoughts before sharing publicly.
- To build confidence and communication skills by first discussing in pairs before speaking in front of the class.

- 1. Think Teacher poses a question/problem; students think individually and jot down ideas
- 2. Pair Students discuss their thoughts with a partner, compare answers, and refine ideas.
- 3. Share Pairs share their discussion points with the class.
- Teacher facilitates discussion, clarifies misconceptions, and highlights key learning points.



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• Works well for concept clarification, brainstorming, problem-solving, and peer learning.

- Students gain better conceptual understanding through reflection and peer discussion.
- Improved critical thinking, reasoning, and problem-solving skills.
- Increased student participation and reduced hesitation in sharing ideas.
- Development of communication, teamwork, and listening skill

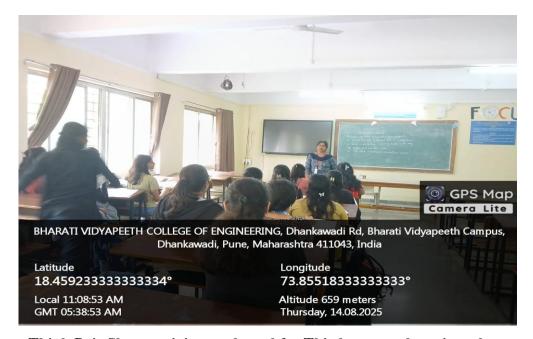


Think Pair Share activity conducted for second year students in a class.



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Think Pair Share activity conducted for Third year students in a class.

Title:- Quiz

Objectives: -

- To assess students' understanding of concepts in a quick and engaging way.
- To reinforce learning by recalling and applying knowledge.
- To create a competitive yet fun environment that motivates participation.

- Conducted in classroom, online platforms etc.
- May include MCQs, true/false, rapid-fire rounds, puzzles, or problem-solving questions.
- Can be done individually.



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- Teacher acts as quiz master/facilitator, guiding rules, timing, and scoring.
- Often followed by discussion of correct answers to clarify doubts.

- Students recall and reinforce their knowledge in an interactive way.
- Improves critical thinking, speed, and accuracy.
- Enhances engagement, confidence, and healthy competition.



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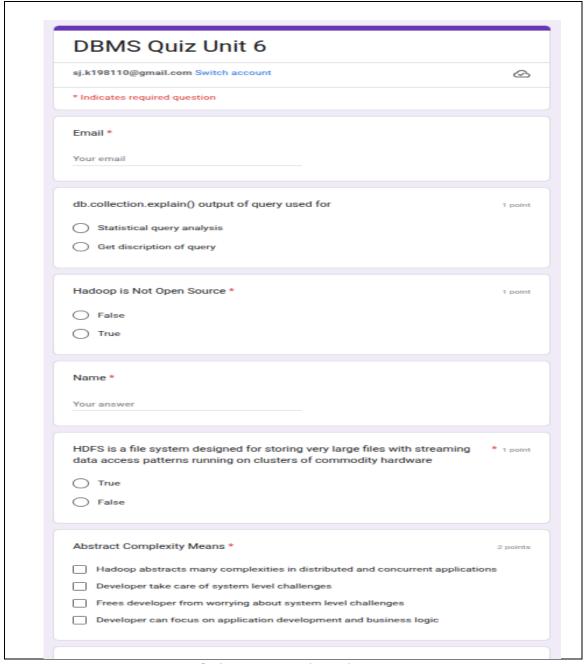
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	Pune-Satara Road, D	hankawadi,	Taluka – Haveli, Dist Pune	
Name	: Patit Samuddhi Youhi	vant.		
	No:		.B.	
	1 Digital F	thing & E	Responsibility	
		tilles & F	Cesponsion	
1	What is digital ethics?		The moral principles governing online behavior	
A	A set of rules for computer coding	В		
C	A cybersecurity policy for businesses	D	The technical knowledge of using the internet	
18.80	B. The moral principles	governi	ng online behavior.	
С		governi	ng online behowior. ible digital behavior?	
C	B. The moral principles Which of the following is an example Posting personal information of	governi	ng online behavior. ible digital behavior? Using strong passwords and enabling two-factor	
C Ans 2	B. The moral principles Which of the following is an example Posting personal information of others without permission	go vernio of responsi	ng online behavior. ible digital behavior? Using strong passwords and enabling two-factor authentication	
C Ans	B. The moral principles Which of the following is an example Posting personal information of others without permission Sharing unverified news to gain	go vernio of responsi	ng online behavior. ible digital behavior? Using strong passwords and enabling two-factor authentication Downloading pirated software	
C Ans 2	B. The moral principles Which of the following is an example Posting personal information of others without permission Sharing unverified news to gain	go vernio of responsi	ng online behavior. ible digital behavior? Using strong passwords and enabling two-factor authentication Downloading pirated software	
C Ans 2 A	B. The moral principles Which of the following is an example Posting personal information of others without permission Sharing unverified news to gain	go vernio of responsi	ng online behavior. ible digital behavior? Using strong passwords and enabling two-factor authentication Downloading pirated software enabling two-factor authentication	
C Ans C Ans	B. The moral principles Which of the following is an example Posting personal information of others without permission Sharing unverified news to gain attention B. Using Shong parawood	go vernio of responsi	ng online behavior. ible digital behavior? Using strong passwords and enabling two-factor authentication	

Quiz conducted in offline mode.



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Quiz conducted in online mode.



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Title: - Project based learning

Objectives: -

- To enable students to apply theoretical knowledge in solving real-world or simulated problems.
- To develop critical thinking, creativity, and problem-solving skills through hands-on experiences.
- To foster collaboration, communication, and self-directed learning among students.
- To make learning engaging, meaningful, and long-lasting by connecting classroom concepts to practical applications.

- Students are assigned projects based on real-life challenges or subject-related problems.
- They work individually or in groups to design, plan, and execute the project.
- Teachers act as facilitators or mentors, guiding students rather than directly instructing.
- The process includes:
- 1. Identifying a problem/question.
- 2. Researching and exploring relevant knowledge.
- 3. Designing and developing a project/product/solution.
- 4. Testing, presenting, and reflecting on the outcomes.



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- Students gain deeper understanding of subject concepts.
- Enhanced practical skills (designing, coding, experimenting, analysing, etc.).
- Improved soft skills like teamwork, leadership, communication, and time management. Development of lifelong learning abilities such as critical thinking, creativity, and adaptability.
- A tangible output (report, prototype, model, presentation, research paper, working solution, etc.) that showcases learning.





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Project Based Learning

Title: - Experiential learning

Objective: -

- To promote learning by doing and reflecting, rather than only through theory.
- To connect concrete experiences with abstract concepts for better understanding.
- To develop students' self-awareness, adaptability, and problem-solving skills.
- To encourage critical reflection so students learn from successes and mistakes.

- Teachers act as facilitators who design experiences, guide reflection, and encourage application.
- Methods used: role plays, simulations, case studies, lab experiments, service-learning, real-world tasks.



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Outcome: -

- Deep conceptual understanding by linking theory to practice.
- Improved critical thinking, decision-making, and reflective skills.
- Development of practical, real-world competencies relevant to careers.
- Ability to transfer knowledge across different contexts.



Experiential learning at NIH IIT Roorkee. Students receiving certificate after completion of internship

Title: - Industrial Visit/Training / Internship

Objectives: -

- To bridge the gap between classroom learning and real-world industrial practices.
- To expose students to practical applications of theoretical concepts.
- To provide insights into work culture, processes, and technologies used in industries.



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 To motivate students by showing them career opportunities and professional practices.

The Practice: -

- Students observe production processes, workflows, technology usage, and management practices.
- Interaction with industry experts/professionals through presentations, Q&A sessions, and demonstrations.

- Enhanced practical knowledge of industry operations and applications.
- Improved understanding of theoretical concepts through real-world observation.
- Awareness of latest technologies, tools, and trends in the industry.
- Development of professionalism, communication skills, and industry exposure.
- Students become more career-oriented and understand expectations of employers.



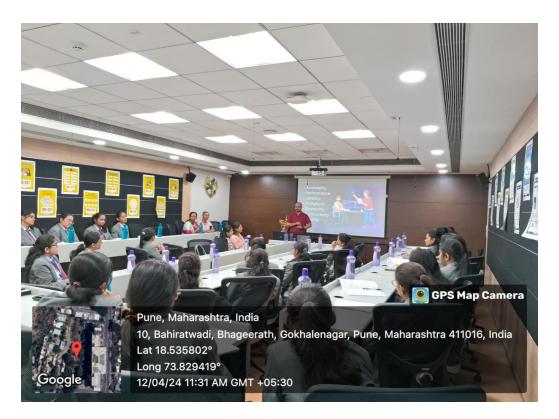
Industrial Visit of BE Computer to Tech Mahindra Makers Lab, Pune on 21st October 2023



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Industrial visit of SE Computer to Maharashtra Knowledge Corporation Limited (MKCL), Pune on 12th April 2024

Title: - Role Play

Objectives: -

- To help students understand concepts, processes, or situations by acting them out.
- To develop empathy, communication, and interpersonal skills.
- To provide a realistic and engaging way of learning abstract or complex ideas.



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 To enhance decision-making, problem-solving, and critical thinking by placing students in practical scenarios.

The Practice: -

- Teacher designs a scenario/problem related to the subject.
- Students are assigned roles.
- Students act out the roles in front of the class or in small groups, simulating real-life or subject-based situations.
- Teacher observes, facilitates, and later guides reflection/discussion to connect role play with theoretical concepts.

- Students gain practical understanding of concepts through active involvement.
- Improved communication, teamwork, and confidence in expressing ideas.
- Development of empathy and perspective-taking by experiencing different roles.
- Enhanced problem-solving and decision-making skills.
- Creates a lively, engaging classroom atmosphere that improves retention of knowledge.
- Provides teachers with a way to assess student participation and conceptual clarity.



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Role Play Activity conducted for second Year students in the class.



Role Play Activity conducted for third year students in lab.



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Title:- Mini Project

Objectives: -

- To enable students to apply the knowledge of core subjects in solving real-life problems.
- To develop design thinking, problem-solving ability, and hands-on skills.
- To encourage teamwork, innovation, and creativity among students.
- To enhance skills in project planning, documentation, and presentation.
 The Practice

The Practice: -

- Students, individually or in groups (2–4 members), select a problem statement relevant to their domain or interdisciplinary areas.
- Students design the system, implement it using suitable tools, and carry out testing.
- Faculty guides monitor progress through regular reviews and provide necessary feedback.
- Teams prepare a mini project report covering problem definition, design methodology, implementation details, results, and conclusion.
- Students present their mini-project outcomes to guide.

- Students will be able to identify and define a small-scale problem and propose an appropriate solution.
- Students will gain practical exposure to hardware/software tools and technologies.



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- Improved technical writing and communication skills through report preparation and project presentations.
- Development of teamwork, leadership, and time management skills.

Title:- Group Presentation

Objectives: -

- To develop students' communication, presentation, and public-speaking skills.
- To enhance teamwork and collaborative learning.
- To build confidence in expressing technical concepts before peers and faculty.

The Practice: -

- 1. Topics are assigned by the faculty or selected by student groups in consultation with the faculty.
- 2. Students are divided into small groups (3–5 members).
- 3. Each group researches the topic, prepares slides or charts, and organizes content.
- 4. Groups present their topic in class using multimedia tools (PowerPoint, whiteboard, models, etc.).
- 5. After the presentation, a Q&A session is conducted to encourage discussion and peer learning.

- Students will improve their communication and presentation skills.
- They will learn to work in teams effectively, sharing roles and responsibilities.
- Enhanced ability to analyse, organize, and present technical information.



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Group Presentation conducted by BE students



Peer to Peer Training



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Title:- Virtual Lab

Objectives: -

- To provide a simulated, interactive environment for hands-on experimentation without physical lab limitations.
- To enhance conceptual understanding by allowing students to visualize and manipulate variables.
- To improve student engagement with difficult or hazardous experiments in a safe setting.
- To encourage inquiry-based and self-paced learning.

The Practice: -

- Teacher assigns students a topic requiring experimentation.
- Students access a virtual lab platform (e.g., AWS, Oracle).
- Students perform the experiment by interacting with virtual instruments and observing outcomes.

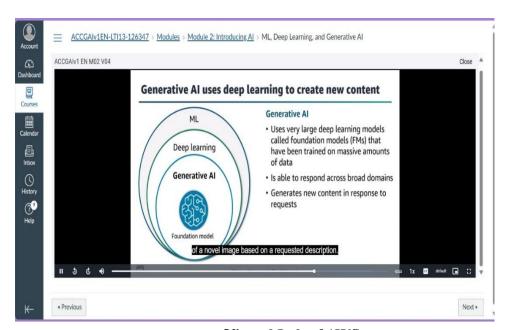
- Students develop their practical skills.
- Enables repetition of experiments for better comprehension.
- Increases accessibility to lab work for remote learners.
- Supports differentiated learning with flexible pacing and exploration.



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Virtual Lab of AWS

Title:- Learning Management System

Objectives: -

- To provide a centralized platform for content delivery, communication, and assessment.
- To streamline course management for teachers and learners.
- To support both synchronous and asynchronous learning.
- To track student performance and progress in real-time.

- Teacher uploads learning materials (notes, videos, quizzes, assignments) to an LMS (e.g. Google Classroom, Google Form)
- Students access the platform to view lessons, submit work or take quizzes.
- Teachers use LMS tools to provide feedback, schedule deadlines, and monitor engagement.
- Integration with other tools (e.g. Microsoft Teams, Google Meet) for live sessions.

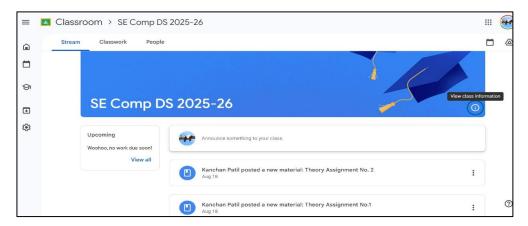


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Outcome: -

- Increases accessibility and flexibility for students to learn anytime, anywhere.
- Encourages self-regulated learning and time management.
- Automates grading and record-keeping for teachers.



Google Classroom of Data structures for SE Comp.



Google Classroom of Computer Networks for TE Comp.



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Title:- Case Study

Objectives: -

- To apply theoretical knowledge to real-world or hypothetical scenarios.
- To develop analytical, reasoning, and decision-making skills.
- To promote collaborative learning and discussion.

The Practice: -

- Teacher selects or creates a case relevant to the subject.
- Students read and analyse the case individually or in groups.
- Students discuss the issues, identify problems, and propose solutions based on subject knowledge.
- Teacher guides the analysis, facilitates discussion, and connects findings to theoretical concepts.

- Encourages critical thinking and application of concepts in realistic contexts.
- Develops problem-solving and decision-making abilities.
- Fosters collaboration and multiple perspectives on an issue.
- Improves students' communication and analytical writing skills.
- Bridges the gap between theory and practice.



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Case Study on dashboard reports can be adapted to multiple terminals, administrators can monitor key metrics data anytime and anywhere on browsers, apps, and more.

Click on below link for feedback on Teaching Learning Practices.

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