MALLAREDDY COLLEGE OF ENGINEERING

(Approved by AICTE, Permanently Affiliated to JNTUH)
Recognized under Section2(f)&12(B)of the UGC Act 1956, AnISO 9001:2015 Certified Institution.
Maisammaguda, Dhulapally, post via Kompally, Secunderabad-500100

DEPT OF CSE-DS

(True success is all about working towards meaningful goals and dreams)

Report

A

REPORT ON

"A SEMINAR SESSION ON

HOW TO USE THE VIRTUAL LAB PLATFORM EFFICIENTLY"

PARTICIPANTS

III CSE & DS FACULTY

17-07-2025, @ 3:00PM - 4:00 PM

ALL ARE CORDIALLY INVITED !!!

Prepared By

A Prashanth
Assistant Professor
CSE - DS

To,
The Principal,
MRCE.

Subject: Request for Permission to Conduct a Program on "**A SEMINAR SESSION ON HOW TO USE THE VIRTUAL LAB PLATFORM EFFICIENTLY**"

Respected Sir,
                Greetings!!!
Dear Sir/Mam,

        I hope this message finds you well. Our department is planning to organize "**A SEMINAR SESSION ON HOW TO USE THE VIRTUAL LAB PLATFORM EFFICIENTLY**" which is scheduled for 17-07-2025, @3:00 AM - 4:00 PM. In this regard, I kindly request your permission to conduct the event. So that our students and faculty will be benefited out of it. Kindly accept our request and do the needful.Thank you for your consideration.Sincerely,

Dr.J. Gladson Maria Britto,

HOD CSE-DS

To,
   The Principal,
   MRCE.

Respected Sir,

        Greetings!!!

        Our department is planning to organize ""**A SEMINAR SESSION ON HOW TO USE THE VIRTUAL LAB PLATFORM EFFICIENTLY**" which is scheduled for 17-07-2025, @3:00 AM - 4:00 PM.

In this regard, I kindly request your permission to conduct the event. Kindly do the needful.

        Thanking You,

                                        Yours truly,

                                        Dr.J. Gladson Maria Britto,

                                        HOD CSE-DS

VISION

Leverage Data Science expertise in emerging technologies and innovations that benefits industry and society to foster a positive impact through data- driven insights

MISSION

To Equip Students with Innovative and Cognitive Skills in the field of Data Science, while instilling Ethical values and Fostering collaboration between Industry and Academia.

To create a learning environment focused on data science and programming for problem-solving, leveraging rapid technological advancements to enhance employ ability and opportunities for higher studies.

To Nurture knowledge that addresses Societal issues through Data Science

Program Outcomes (POs)

Engineering Graduates will be able to:

PO1: Engineering Knowledge: Apply knowledge of mathematics, natural science, computing, engineering fundamentals and an engineering specialization as specified in WK1 to WK4 respectively to develop to the solution of complex engineering problems.

PO2: Problem Analysis: Identify, formulate, review research literature and analyze complex engineering problems reaching substantiated conclusions with consideration for sustainable development.

PO3: Design/Development of Solutions: Design creative solutions for complex engineering problems and design/develop systems/components/processes to meet identified needs with consideration for the public health and safety, whole-life cost, net zero carbon, culture, society and environment as required. (WK5)
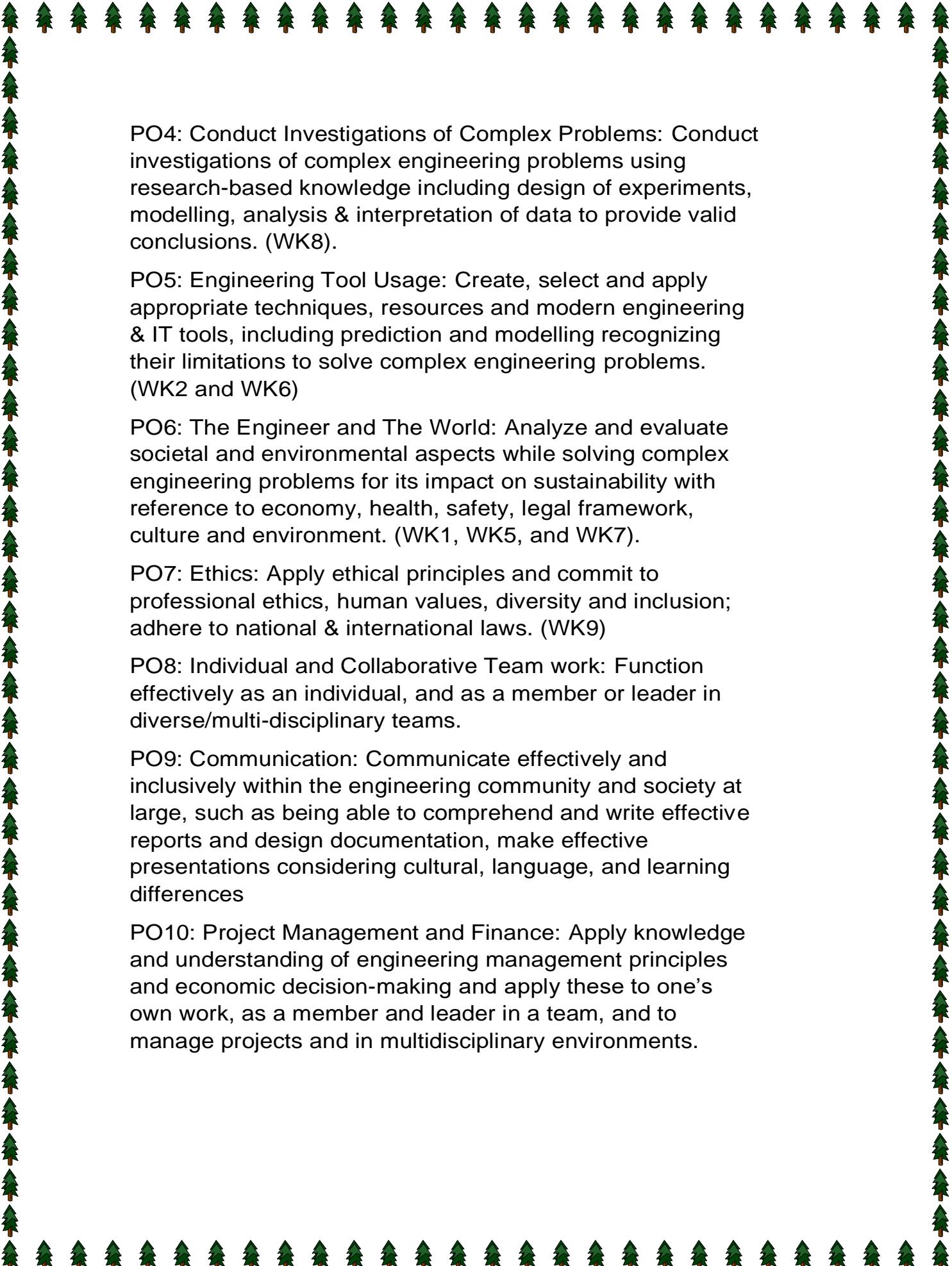
PO4: Conduct Investigations of Complex Problems: Conduct investigations of complex engineering problems using research-based knowledge including design of experiments, modelling, analysis & interpretation of data to provide valid conclusions. (WK8).

PO5: Engineering Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering & IT tools, including prediction and modelling recognizing their limitations to solve complex engineering problems. (WK2 and WK6)

PO6: The Engineer and The World: Analyze and evaluate societal and environmental aspects while solving complex engineering problems for its impact on sustainability with reference to economy, health, safety, legal framework, culture and environment. (WK1, WK5, and WK7).

PO7: Ethics: Apply ethical principles and commit to professional ethics, human values, diversity and inclusion; adhere to national & international laws. (WK9)

PO8: Individual and Collaborative Team work: Function effectively as an individual, and as a member or leader in diverse/multi-disciplinary teams.

PO9: Communication: Communicate effectively and inclusively within the engineering community and society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations considering cultural, language, and learning differences

PO10: Project Management and Finance: Apply knowledge and understanding of engineering management principles and economic decision-making and apply these to one's own work, as a member and leader in a team, and to manage projects and in multidisciplinary environments.
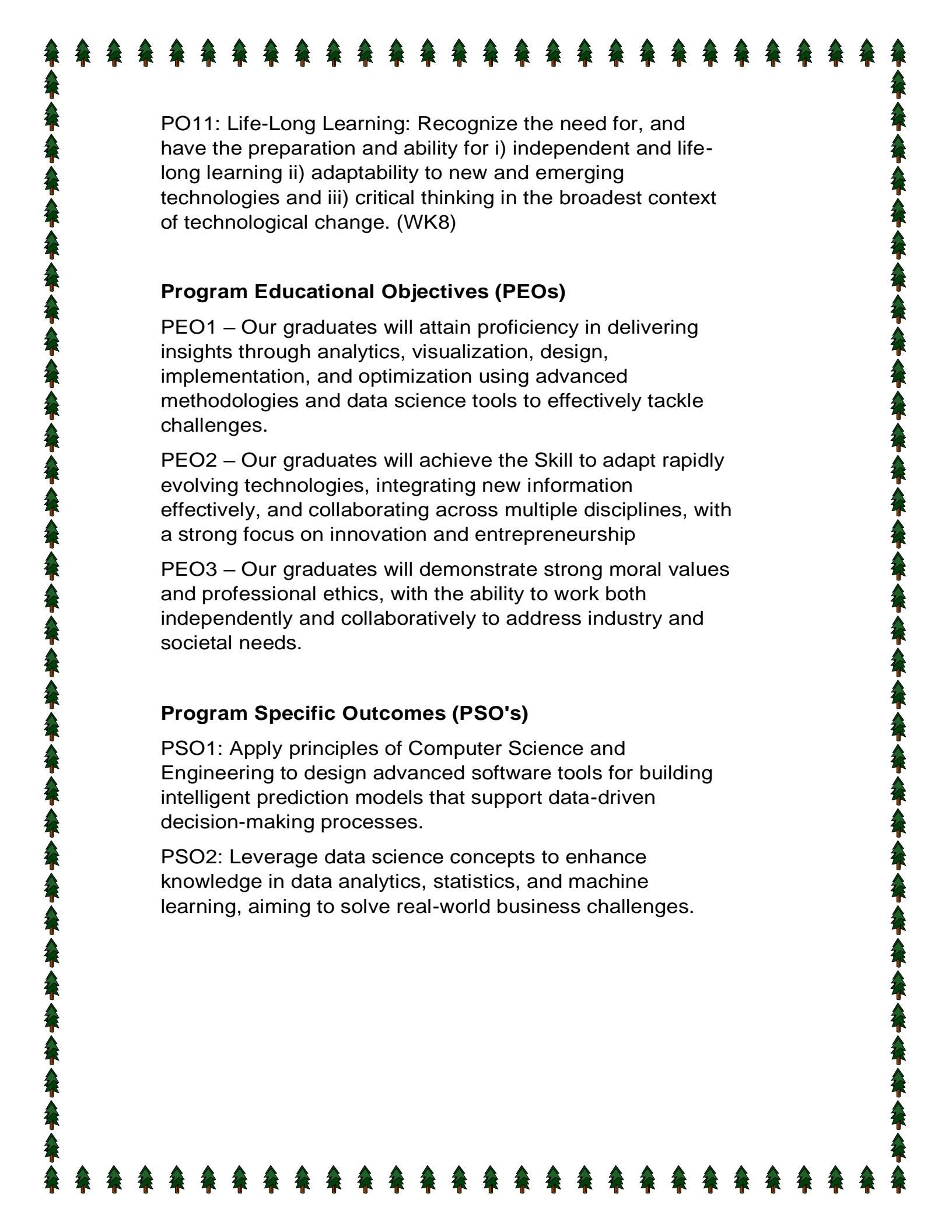
PO11: Life-Long Learning: Recognize the need for, and have the preparation and ability for i) independent and life-long learning ii) adaptability to new and emerging technologies and iii) critical thinking in the broadest context of technological change. (WK8)

Program Educational Objectives (PEOs)

PEO1 – Our graduates will attain proficiency in delivering insights through analytics, visualization, design, implementation, and optimization using advanced methodologies and data science tools to effectively tackle challenges.

PEO2 – Our graduates will achieve the Skill to adapt rapidly evolving technologies, integrating new information effectively, and collaborating across multiple disciplines, with a strong focus on innovation and entrepreneurship

PEO3 – Our graduates will demonstrate strong moral values and professional ethics, with the ability to work both independently and collaboratively to address industry and societal needs.

Program Specific Outcomes (PSO's)

PSO1: Apply principles of Computer Science and Engineering to design advanced software tools for building intelligent prediction models that support data-driven decision-making processes.

PSO2: Leverage data science concepts to enhance knowledge in data analytics, statistics, and machine learning, aiming to solve real-world business challenges.

IN COLLABRATION WITH
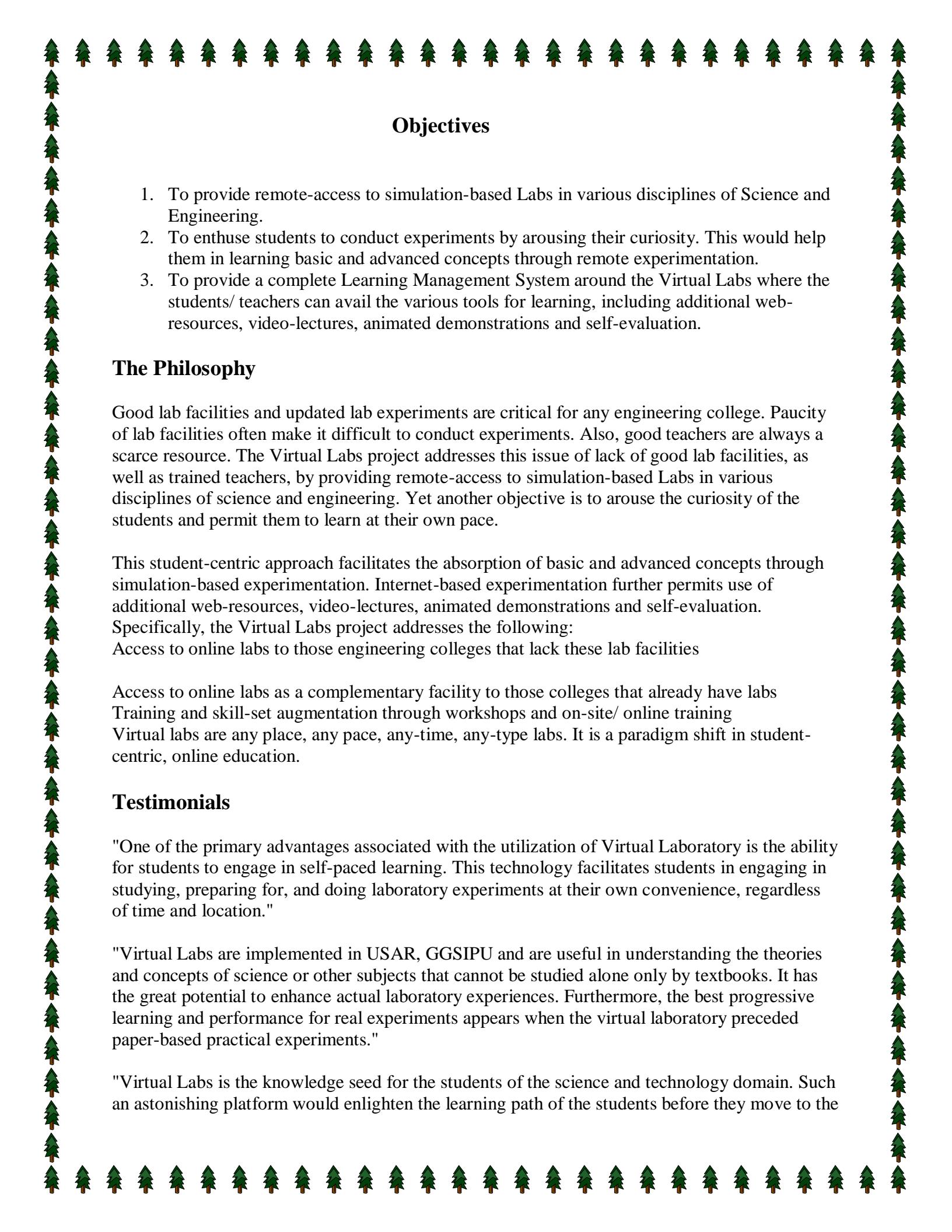
Objectives

1. To provide remote-access to simulation-based Labs in various disciplines of Science and Engineering.
2. To enthuse students to conduct experiments by arousing their curiosity. This would help them in learning basic and advanced concepts through remote experimentation.
3. To provide a complete Learning Management System around the Virtual Labs where the students/ teachers can avail the various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self-evaluation.

The Philosophy

Good lab facilities and updated lab experiments are critical for any engineering college. Paucity of lab facilities often make it difficult to conduct experiments. Also, good teachers are always a scarce resource. The Virtual Labs project addresses this issue of lack of good lab facilities, as well as trained teachers, by providing remote-access to simulation-based Labs in various disciplines of science and engineering. Yet another objective is to arouse the curiosity of the students and permit them to learn at their own pace.

This student-centric approach facilitates the absorption of basic and advanced concepts through simulation-based experimentation. Internet-based experimentation further permits use of additional web-resources, video-lectures, animated demonstrations and self-evaluation. Specifically, the Virtual Labs project addresses the following:
Access to online labs to those engineering colleges that lack these lab facilities

Access to online labs as a complementary facility to those colleges that already have labs
Training and skill-set augmentation through workshops and on-site/ online training
Virtual labs are any place, any pace, any-time, any-type labs. It is a paradigm shift in student-centric, online education.

Testimonials

"One of the primary advantages associated with the utilization of Virtual Laboratory is the ability for students to engage in self-paced learning. This technology facilitates students in engaging in studying, preparing for, and doing laboratory experiments at their own convenience, regardless of time and location."

"Virtual Labs are implemented in USAR, GGSIPU and are useful in understanding the theories and concepts of science or other subjects that cannot be studied alone only by textbooks. It has the great potential to enhance actual laboratory experiences. Furthermore, the best progressive learning and performance for real experiments appears when the virtual laboratory preceded paper-based practical experiments."

"Virtual Labs is the knowledge seed for the students of the science and technology domain. Such an astonishing platform would enlighten the learning path of the students before they move to the
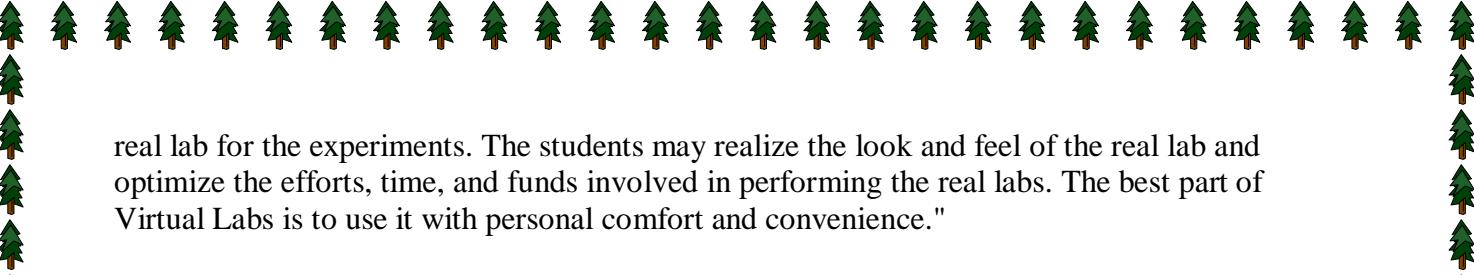
real lab for the experiments. The students may realize the look and feel of the real lab and optimize the efforts, time, and funds involved in performing the real labs. The best part of Virtual Labs is to use it with personal comfort and convenience."

To use a virtual lab platform efficiently, focus on selecting the right platform, understanding its features, and integrating it effectively into your learning process. This involves familiarizing yourself with the platform's interface, tailoring content to your needs, and providing clear guidance to learners.

Here's a more detailed breakdown:

1. Choosing the Right Platform:
- Identify your needs:
  Determine the specific learning objectives, skills, and subject matter that the virtual lab will address.
- Research available platforms:
  Explore different virtual lab platforms, considering factors like user-friendliness, features, cost, and support.
- Assess compatibility:
  Ensure the chosen platform integrates with your existing learning management system (LMS) or other tools.

2. Understanding the Platform:
- Explore the interface:
  Familiarize yourself with the navigation, tools, and features of the chosen platform.
- Utilize tutorials and documentation:
  Take advantage of any available tutorials, guides, or documentation to learn how to effectively use the platform.
- Experiment with different features:
  Try out various features, such as simulations, interactive exercises, and assessment tools, to understand their functionalities.

3. Integrating into the Learning Process:
- Tailor content:
  Customize virtual lab experiences to align with specific learning objectives and learner needs.
- Provide clear instructions:
  Offer clear and concise instructions to guide learners through the virtual lab experiments.
- Incorporate into curriculum:
  Integrate the virtual lab activities into your overall course structure and learning materials.
- Encourage active participation:
  Design activities that promote active engagement, critical thinking, and reflection on the virtual lab experience.
- Provide feedback and assessment:
  Utilize the platform's assessment tools to evaluate student understanding and provide constructive feedback.
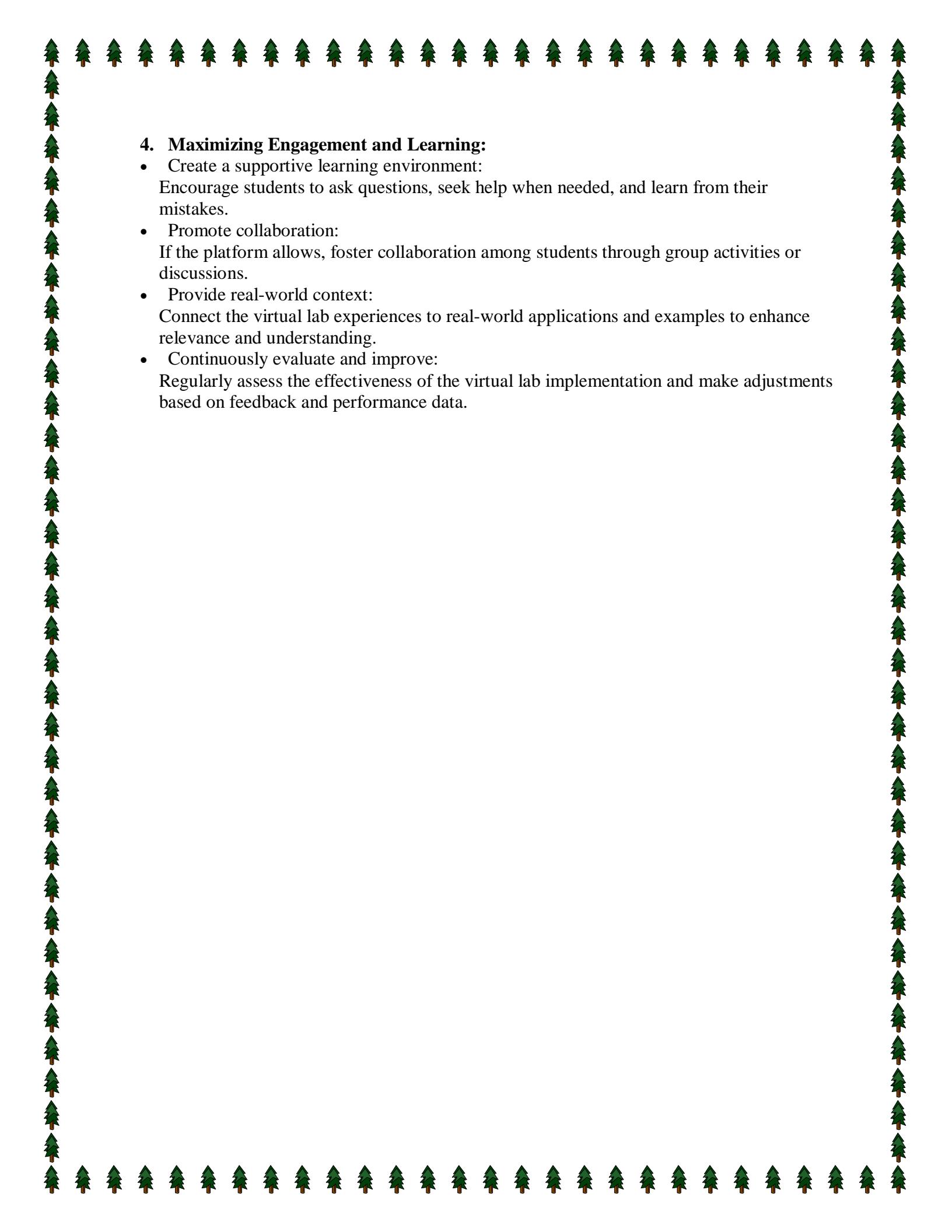
4. Maximizing Engagement and Learning:

- Create a supportive learning environment:
  Encourage students to ask questions, seek help when needed, and learn from their mistakes.
- Promote collaboration:
  If the platform allows, foster collaboration among students through group activities or discussions.
- Provide real-world context:
  Connect the virtual lab experiences to real-world applications and examples to enhance relevance and understanding.
- Continuously evaluate and improve:
  Regularly assess the effectiveness of the virtual lab implementation and make adjustments based on feedback and performance data.

PHOTOS

DR.V.NARASIMHA REDDY DEAN-STUDENT AFFAIRS,
Dr.G.J.M.BRITTO , HOD CSE-DS, AI&DS ADDRESSING
THE GATHERING
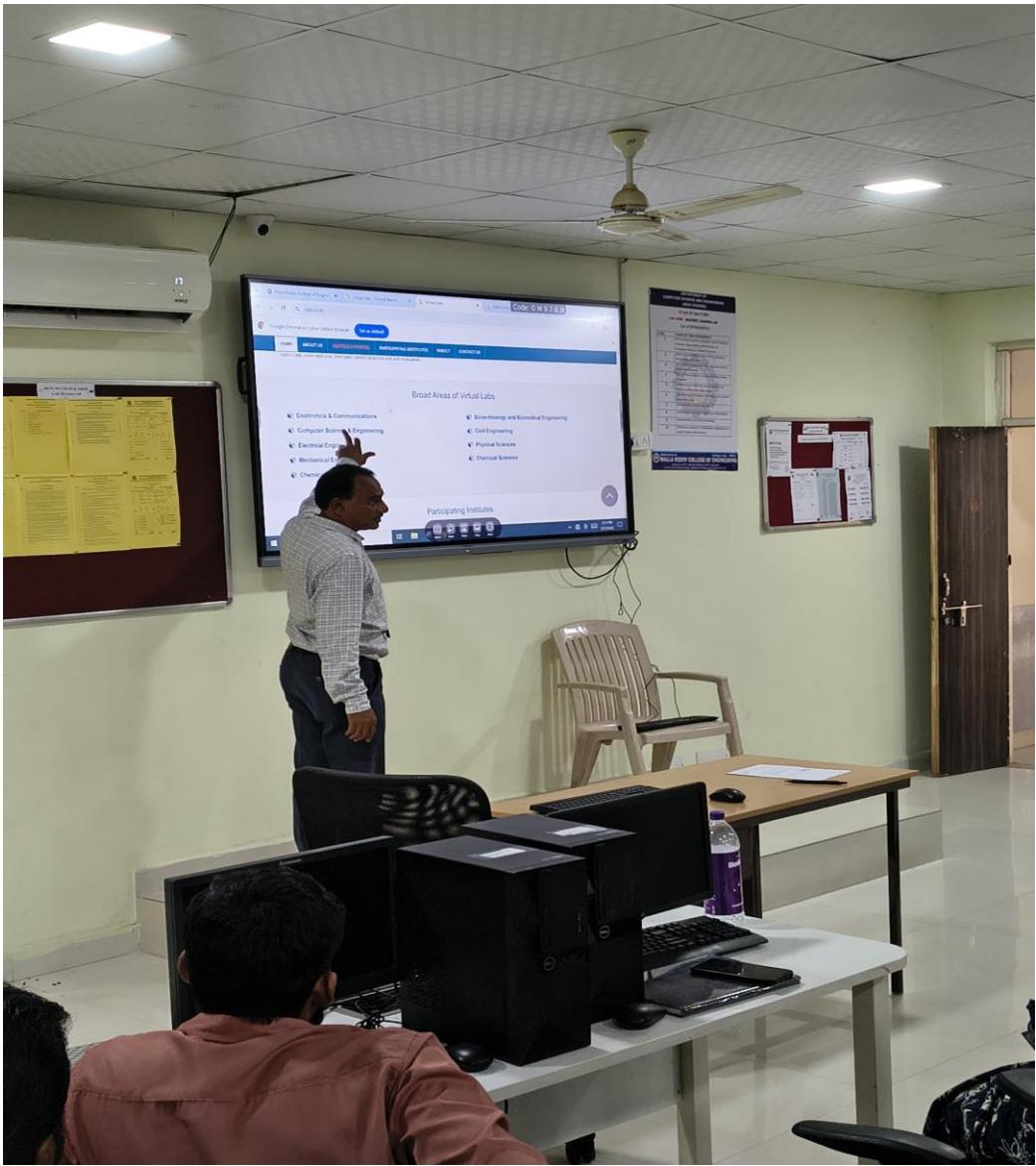
DR.V.NARASIMHA REDDY DEAN-STUDENT AFFAIRS, EXPLAING HOW TO EXCUTE A PROGRAM VIRTUALLY.

DR.M. SANDHYA RANI, DEAN-ACADEMIC ALONG WITH CSE & DS FACULTY MEMBERS ATTENTED THE SEMINAR
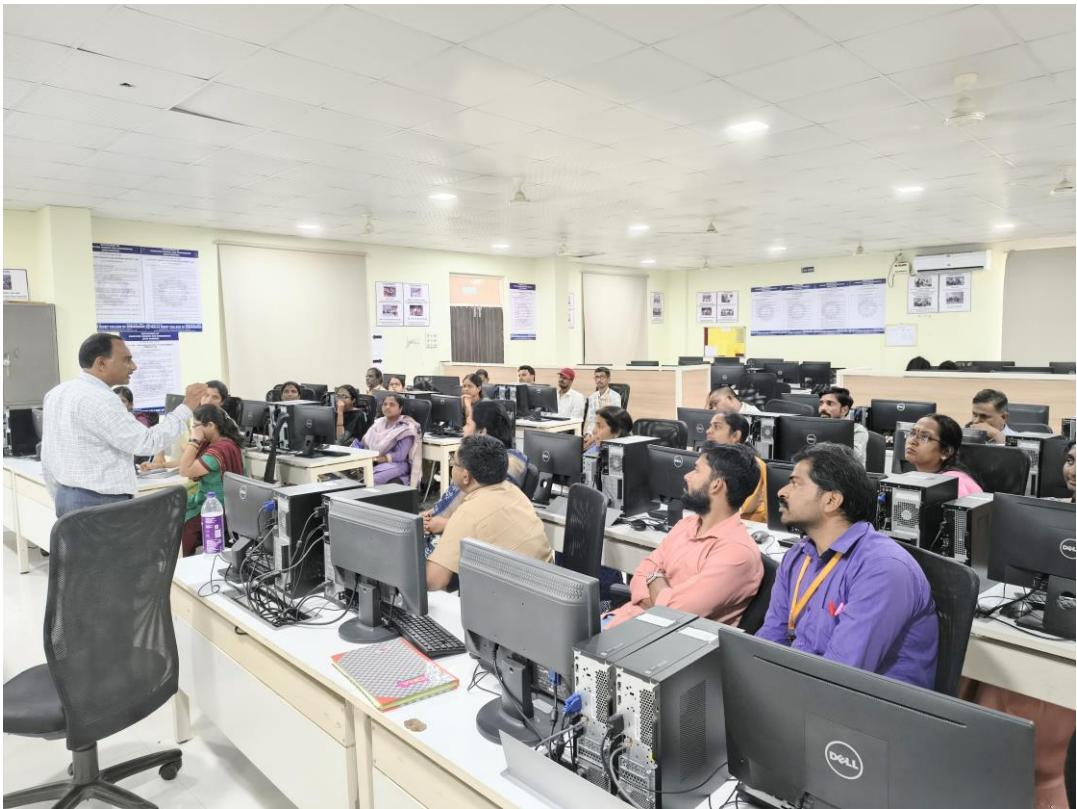
CSE & DS FACULTY MEMBERS GATHERED FOR
SEMINAR

CSE & DS FACULTY MEMBERS WATCHING THE VIDEO
OF VIRTUAL LAB EXECUTION
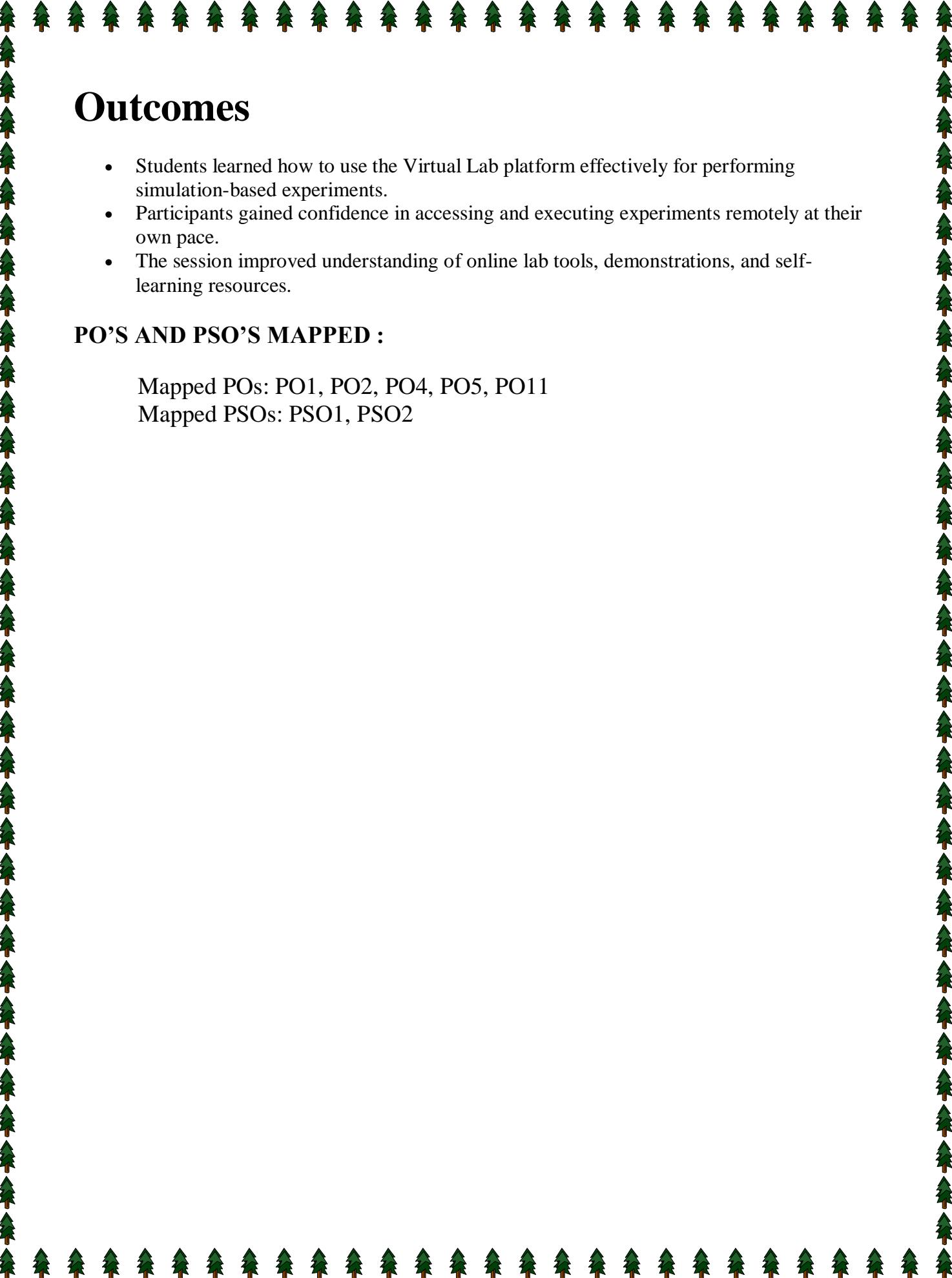
Outcomes

- Students learned how to use the Virtual Lab platform effectively for performing simulation-based experiments.
- Participants gained confidence in accessing and executing experiments remotely at their own pace.
- The session improved understanding of online lab tools, demonstrations, and self-learning resources.

PO'S AND PSO'S MAPPED :

Mapped POs: PO1, PO2, PO4, PO5, PO11
Mapped PSOs: PSO1, PSO2