

Report on the "Virtual Lab" Workshop Held at the Faculty of Engineering and Technology, Gurukul Kangari (Deemed to be University), Haridwar

Date: October 5, 2024

Venue: Electrical Engineering Department, Faculty of Engineering and Technology, Gurukul Kangari, Haridwar

Organized by: Electrical Engineering Department

Coordinated by: Mr. Gajendra Singh Rawat & Mr. Gaurav Kumar

Experts from IIT Roorkee: Mr. Pankaj Saini and Mr. Akash Saini

Introduction

On October 5, 2024, the Electrical Engineering Department of the Faculty of Engineering and Technology, Gurukul Kangari (Deemed to be University), Haridwar, hosted a highly insightful workshop on "Virtual Labs." The session was conducted by expert representatives from IIT Roorkee, Mr. Pankaj Saini and Mr. Akash Saini. This workshop was organized with the aim of enhancing the practical knowledge of students through the innovative use of virtual lab technology, which is being spearheaded by the Ministry of Education (MoE), Government of India.

Objective of the Workshop

The main objective of the workshop was to familiarize students with the concept of virtual labs, their significance in engineering education, and how they are helping bridge the gap between theoretical knowledge and practical application. The workshop aimed to introduce students to the Ministry of Education's Virtual Lab initiative and how this tool can revolutionize learning by providing remote access to lab environments and simulations.

Key points covered in the workshop included:

An introduction to virtual labs and their growing role in modern education.

The involvement of IITs and centrally funded institutes in the development and promotion of virtual labs.

Benefits of virtual labs in enhancing students' skills and preparing them for real-world applications.

Potential opportunities for internships at IIT Roorkee for students who actively participate in these virtual lab projects.

Workshop Highlights

Inauguration and Welcome Address

The workshop commenced with a warm welcome by the Head of the Electrical Engineering Department, Mr. Gajendra Singh Rawat, who emphasized the importance of integrating practical knowledge with theoretical learning. He encouraged students to actively participate and make the most of the session, as it would provide a unique

opportunity to enhance their understanding of engineering concepts through virtual labs.

Expert Guidance by IIT Roorkee Representatives

The highlight of the workshop was the presence of Mr. Pankaj Saini and Mr. Akash Saini from IIT Roorkee. They delivered comprehensive presentations on the working of virtual labs and how students can use them to conduct experiments and simulations remotely. They stressed how the Ministry of Education has been pushing for this technological advancement to ensure that students from all over India, including those from institutions with limited physical lab resources, have access to high-quality practical learning tools. They also provided a detailed walkthrough of how students can access and utilize the virtual lab platform.

During their session, the experts shared some exciting news: students who demonstrate strong participation in virtual lab activities have excellent opportunities to apply for internships at IIT Roorkee. This announcement garnered considerable attention and enthusiasm from the student participants.

Encouragement by the Dean

The Dean of the Faculty of Engineering and Technology, Professor Vipul Sharma, attended the workshop and commended the department for organizing such a progressive and forward-looking event. He encouraged students to leverage the potential of virtual labs to sharpen their technical skills and ensure they stay competitive in the ever-evolving field of engineering.

Participation and Interaction

The workshop witnessed participation from students across various branches, including Electrical Engineering, Computer Science, Mechanical Engineering, and Electronics and Communication. The interactive session provided students with the opportunity to ask questions, clarify doubts, and engage in a healthy discussion about the practical application of virtual labs in their curriculum.

Workshop Management and Execution

The workshop was smoothly coordinated by Mr. Gajendra Singh Rawat & Mr. Gaurav Kumar, with strong support from the entire Electrical Engineering Department. Faculty members including Dr. Brijesh Kumar, Dr. Ashish Dhamandha, Mr. Yogesh Kumar, Mr. Lokesh Bhardwaj, and Mr. Aviral Awasthi played key roles in ensuring the event ran without any disruptions. Their involvement extended from organizing the logistics to managing the technical setup required for the virtual lab demonstration.

Additionally, several faculty members from other departments, including Dr. Mayank Pokhriyal, Mr. Sanjay Singh, Mr. Ashwani Kumar, and Mr. Prateek Aggarwal, were present to observe and contribute to the session. Their presence emphasized the cross-departmental interest in adopting virtual labs as an educational tool.

Impact and Feedback

The workshop was received positively by both students and faculty members. Students appreciated the in-depth explanation and hands-on demonstration provided by the experts from IIT Roorkee. The opportunity to gain practical knowledge through virtual simulations, especially for those without immediate access to physical labs, was seen as a significant step forward in their academic journey.

Faculty members also expressed their satisfaction with the event, noting that virtual labs can complement the existing curriculum and help students develop a deeper understanding of theoretical concepts. They further acknowledged the potential of virtual labs to foster innovation and encourage independent learning among students.

Conclusion



The "Virtual Lab" workshop hosted by the Electrical Engineering Department at Gurukul Kangari (Deemed to be University), Haridwar, in collaboration with IIT Roorkee, was a resounding success. It introduced students to a cutting-edge educational tool that promises to revolutionize practical learning. The initiative undertaken by the Ministry of Education to promote virtual labs aligns with the broader goal of preparing students for the demands of the modern engineering landscape.

With the enthusiastic participation of students from multiple disciplines and the active support of faculty members, this workshop marks the beginning of a new chapter in the integration of technology-driven education at the university.