14th -15th June 2024

IIT Delhi
Indian Institute of Technology Delhi

State Level Workshop On

Virtual Labs
An MoE Govt of India Initiative

Collaboration & Sponsored
by
VIRTUAL LABS, IIT DELHI

Organized by
Government Degree College Nagrota Bagwan, HP – 176047

Organizing Committee

Chief Patron
Dr. Surender Kumar Soni (Principal)
Government Degree College Nagrota Bagwan

Patron
Prof. Rajesh Kumar(Associate Professor)
Department of Zoology

Co-Patron
Prof. Sanjay Sharma(Associate Professor)
Department of Physics

Convener
Dr. Manish Sharma (8629000115)
(Institute Nodal Coordinator Virtual labs)

Organizing Secretary
Dr. Rakesh Kumar Pushap (Coordinator-BCA)

Organizing & Technical Assistance Team
Prof. Rahul Dhiman (Assistant Professor-BCA)
Prof. Ayasha Kapoor (Assistant Professor-BCA)
Prof. Kavita Kumari (Assistant Professor-BCA)
Prof. Raman Kumar(Assistant Professor-BBA)

Who Can Participate?

- Faculty of Science/BCA/MCA from Degree Colleges.
- Faculty of Engineering & Polytechnic Colleges. (All Branches)

How to Apply?

- The participants have to register in advance by paying Rs150/only on or before 12th June 2024 up to 23:55 hrs.(Link is given below)
- Each Institute can register maximum up to 3 faculty members. Registration will be closed as soon as available seats are filled.
- Total Seats Available-100 only

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About the Institute

Government Degree College, Nagrota Bagwan is a NAAC accredited grade 'B' and UGC 2(f) & 12(b) recognized college, situated in foothills of the snow-capped Dhauladhar mountain range and was established in 2006 to cater to the educational needs of the students of the hill state. It has a sprawling campus and a well-designed building spread over approximately 100 kanals area. It is affiliated to Himachal Pradesh University, Shimla, and Sardar Patel University Mandi, offers courses in Humanities, Sciences, Commerce, BBA and BCA at the undergraduate level and in English, Commerce and Mathematics at the postgraduate level. From the session 2024-25 college will run AICTE approved BBA/BCA courses. The Institute as Nodal Centre of Virtual Labs was established in the year 2023 in collaboration with IIT Delhi. The centre has two well-equipped computer labs.

About the Workshop

A workshop is a tool for fostering knowledge and professional skills to the participants in order to improve their performance in education, research, administration augmenting as well as organizational capacities and culture.The primary objective of this workshop is to equip faculty members and students with modern tools and techniques that enhance their proficiency in Virtual Labs Skills, by addressing key topics and providing Hands-On sessions. The program is structured into three sessions, with Session I and Session II serving as introductory sessions, followed by Session III, which focuses on Hands-On session of educators, ensuring they are well equipped to navigate the digital Landscape of modern education. Computer Simulations is the first in New Education Policy-2020 that focuses on simulation activities that go hand-in-hand with theory classes. This workshop is about an approximate version of the 'real-world' experiments and also remote-access skills.

About the Virtual labs

We are pleased to introduce you to Virtual Labs, a Mission Project developed under the aegis of National Mission on Education through ICT (NMEICT), MOE, and Govt. of India. As you know, good lab facilities and updated lab experiments are critical for any engineering college. Physical distances and the limited availability of resources often put restrictions on conducting experiments, especially when they involve sophisticated instruments. Virtual Labs have been designed to provide remote access to Labs in various disciplines of Science and Engineering. These Virtual Labs would cater to students at the undergraduate and postgraduate level as well as research scholars. Virtual Labs enable the students to learn at their own pace and enthuse them to conduct experiments. Virtual Labs also provide a complete learning management system where the students can avail various tools for learning, including additional web-resources, video-lectures, animated demonstrations, and self-evaluation. Virtual Labs can be used to complement physical Labs. Virtual Lab enables the user to perform experiments remotely as an on-demand service over the web. Virtual Lab does not require any additional infrastructural setup for conducting experiments at the user premises. One Computer terminal with broadband Internet connectivity is all that is needed to perform the experiments remotely. Virtual Labs are currently ready for use and available at one common website:-

http://www.vlab.co.in/-

Objectives: - 1. To provide remote-access to Labs in various disciplines of Science and Engineering. These Virtual Labs would cater to students at the undergraduate level, post graduate level as well as to research scholars.

2. To provide a complete Learning Management System around the Virtual Labs where the students can avail the various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self-evaluation.
3. To share costly equipment and resources, which are otherwise available to limited number of users due to constraints on time and geographical distances?

Salient Features:-

1.Virtual Labs will provide the result of an experiment by one of the following methods (or possibly a combination) to the students/ learners.

• Modeling the physical phenomenon by a set of equations and carrying out simulations to yield the result of the particular experiment. This can, at-the-best, provide an approximate version of the 'real-world' experiment.

• Providing measured data for virtual lab experiments corresponding to the data previously obtained by measurements on an actual system.

• Remotely triggering an experiment in an actual lab and providing the student the result of the experiment through the computer interface.

2. Virtual Labs will be made more effective and realistic by providing additional inputs to the students like accompanying audio and video streaming of an actual lab experiment and equipment.

Broad Areas of Virtual Labs

- Physical Sciences
- Computer Science & Engineering
- Chemical Sciences
- Life Sciences
- Biotechnology & Biomedical Engineering
- Electronics & Communications Engineering
- Mechanical Engineering
- Electrical Engineering
- Civil Engineering
- Chemical Engineering

Schedule of Workshop

- Faculty of Science from Degree Colleges **(14th June 2024)**
- Faculty of Engineering, BCA/MCA & Polytechnic Colleges **(15th June 2024)**
- Program Schedule of the workshop will be mailed separately to the registered candidates.

Highlights of the Workshop

- Minimum Registration Fee
- Resource Persons from IIT Delhi for Training on Virtual Labs & Hands-On Session.
- As per New Education Policy-2020 standards.

Registration Fees- Rs 150 (One hundred & Fifty only)

The above fees include the following

- Workshop kit
- Participation Certificate
- Lunch & High tea
- No TA/DA will be paid.

Scan the QR Code below for payment & upload the payment proof in registration form

https://forms.gle/G9476bLdoZJPQFZCA

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