

An Introductory Workshop on Virtual Labs

(15th to 16th February, 2019)

Title of Event: An Introductory Workshop on Virtual Labs

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 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 can avail the various tools for learning, including additional web-resources, video-lectures, animated demonstrations and self-evaluation.
4. To share costly equipment and resources, which are otherwise available to limited number of users due to constraints on time and geographical distances.

Workshop Details

An introductory workshop on Virtual Labs was scheduled from 15.02.2019 to 16.02.2019 for B. Tech. I year, IV and VI semesters faculty members / students from respective streams (CS/IT, EC, EE, ME and first year) by IIT Delhi and supported by MHRD Govt. of India. Occasion was that Skit has been selected as a Nodal Centre for Virtual Labs by IIT Delhi.

Expected Outcomes: After attending the workshop, participants will be able

1. Virtual Labs will provide to the students the result of an experiment by one of the following methods (or possibly a combination)
 - 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. This would entail carrying out the actual lab experiment remotely.
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.

Workshop Details

External & Internal Resource Persons

Workshop started by welcome speech by Mr. Ajay Kumar Dhanopia-Nodal Coordinator, Virtual Labs, SKIT Jaipur. Subsequently, two executives from Virtual Labs IIT Delhi, Mr. Prateek Sharma and Mr. Ashish Ranjan were welcomed by flowers & mementos by Dr. S. L. Surana (Director Academics) and Dr. Ramesh Kumar Pachar (Principal, SKIT, Jaipur).

Then after, Director Academics spoke about the importance and utility of Virtual Labs in current academic scenario. He profusely motivated students to conduct experiments by arousing their curiosity which can help them in learning basic and advanced concepts of theoretical postulates through remote experimentation.

The letter of understanding was also provided by delegates from IIT Delhi to Dr.S.L.Surana and Dr. Ramesh Kumar Pachar.



Number of Participants: More than **60 faculty members** and **1000 students** from B. Tech. I year, IV and VI semesters faculty members / students from respective streams of SKIT, Jaipur (CS/IT, EC, EE, ME and first year) attended this workshop.

Brief Proceedings of each day of activity

The major points that were covered during this workshop on Day-1 are as followings:

Motivation & Importance of laboratories

The basic idea of online learning platform

1. Objectives of the Virtual Labs
2. Types of Virtual Labs
3. Intended Users
4. Participating Institutes
5. Scope of Virtual Labs

The major points that were covered during this workshop on Day-2 are as followings:

6. Practical demonstration of configuration of Virtual Lab Website www.vlabs.co.in
7. Demonstration of stream wise laboratories experiments
8. Best Practices & Social Impact of this project.

Recommendations:

Although no formal feedback was taken, informal feedback did show that participants felt pleased due to the enrichment of their information regarding online learning facilities. They appreciated the fact that whatever theoretical concepts they can learn in classrooms can be conveniently verified and tested practically using Virtual labs. Moreover, they were also fascinated by the fact that with a very limited resources and negligible investment, they can increase their practical skills from remote locations without actually visiting a laboratory. This can help them to study even in odd hours.



**Swami Keshvanand Institute of Technology,
Management & Gramothan, Jaipur
Department of Mechanical Engineering**

An Introductory Workshop on Virtual Labs 15th to 16th February, 2019

List of Participants

S.NO.	Employee id	NAME	Department
1	60	Ramesh Kumar Pachar	Electrical Engg.
2	30	Harpreet Singh Gill	Computer Science and Engg.
3	855	Sushant Kumar	Computer Science and Engg.
4	39	Vinod Kataria	Computer Science and Engg.
5	830	Garima Gupta	Computer Science and Engg.
6	833	Nidhi Srivastav	Computer Science and Engg.
7	806	Shanu Tripathi	Computer Science and Engg.
8	863	Rajat Goel	Computer Science and Engg.
9	47	Sarabjeet Singh Sethi	Computer Science and Engg.
10	664	Amit Kumar Bansal	Mechanical Engg.
11	83	Ankit Kumar Agarwal	Mechanical Engg.
12	85	Praveen Saraswat	Mechanical Engg.
13	867	Om Ji Shukla	Mechanical Engg.
14	75	Dheeraj Joshi	Mechanical Engg.
15	832	Manoj Kumar Saini	Mechanical Engg.
16	888	Prakash Bhardwaj	Mechanical Engg.
17	665	Chandan Kumar	Mechanical Engg.
18	141	Arun Beniwal	Mechanical Engg.
19	80	Manoj Kumar Sain	Mechanical Engg.
20	673	Sunil Kumar	Mechanical Engg.
21	799	Vikash Gautam	Mechanical Engg.
22	823	Sumit Jhalani	Mechanical Engg.
23	156	Nitin Goyal	Mechanical Engg.
24	199	Monu Gupta	Mechanical Engg.
25	723	Brijmohan Sharma	Mechanical Engg.
26	736	Keshav Jakotia	Mechanical Engg.
27	839	Mohd.Suhaib	Mechanical Engg.
28	678	Ajay Kumar Dhanopla	Mechanical Engg.
29	604	Saurabh Gupta	Mechanical Engg.
30	856	Neeraj Garg	Computer Science and Engg.
31	715	Krishna Dayal	English department
32	837	Richa Sharma	Electronics and Comm. Engg.
33	46	Swati Arora	Electronics and Comm. Engg.
34	147	Rukhsar Zafar	Electronics and Comm. Engg.
35	628	Monika Mathur	Electronics and Comm. Engg.
36	186	Priyanka Sharma	Electronics and Comm. Engg.
37	837	Kiran Rathi	Electronics and Comm. Engg.
38	882	Ankit Agarwal	Electronics and Comm. Engg.
39	182	Sunil Lakhwat	Electronics and Comm. Engg.
40	809	Rahul Pandey	Electronics and Comm. Engg.
41	130	Lalit Lata	Electronics and Comm. Engg.
42	829	Abhinandan Jain	Electronics and Comm. Engg.



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S.NO.	Employee id	NAME	Department
43	183	Neeraj Jain	Electronics and Comm. Engg.
44	764	Harshal Nigam	Electronics and Comm. Engg.
45	132	J.P. Vijay	Electronics and Comm. Engg.
46	133	Pallav Rawal	Electronics and Comm. Engg.
47	865	Urvashi P. Shukla	Electronics and Comm. Engg.
48	638	Vikash Pathak	Electronics and Comm. Engg.
49	761	Subham Kumawat	civil engineering
50	611	Naval Kishor Jangid	Mathematics Department
51	93	Amber Shrivastava	Mathematics Department
52	841	N.C.Bhandari	Mechanical Engg.
53	816	Md.Yusuf Sharif	Electrical Engg.
54	858	Deepti Arela	Electrical Engg.
55	688	Rammurti Meena	Electrical Engg.
56	714	Md. Imran	Electrical Engg.
57	191	Avadhesh Kumar Sharma	Electrical Engg.
58	1025	Satyam Pandya	Electrical Engg.
59	779	Vikash Mahala	Electrical Engg.
60	105	Anurag Sharma	Chemistry
61	662	Garvit Gupta	Electrical Engg.
62	786	Sumit Gupta	Mathematics Department
63	623	C.P.Jain	Mathematics Department