



Maratha Vidya Prasarak Samaj's
**Karmaveer Adv. Baburao Ganpatrao Thakare College
of Engineering**

Udoji Maratha Boarding Campus, Near Pumping
Station, Gangapur Road, Nashik - 422013

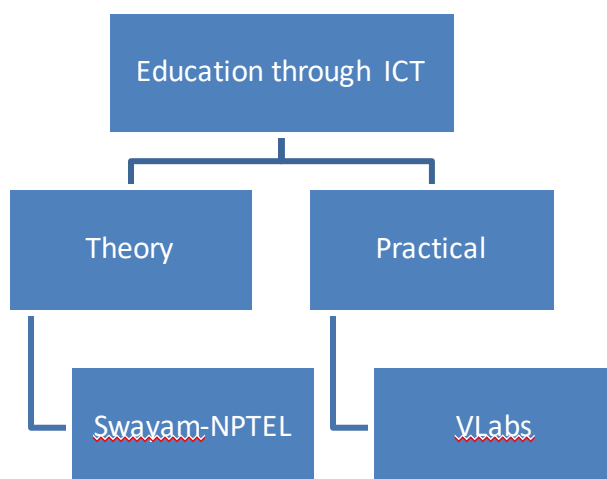


Virtual Lab Nodal Centre

Introduction:

Karmaveer Adv. Baburao Ganpatrao Thakare College of Engineering has been designated as a Nodal Centre for Virtual labs on 26th October 2020. The NCID is 244. Virtual Lab is an initiative of Ministry of Human Resource Development, Government of India under the National Mission on Education through ICT. It is a paradigm shift in ICT-based education. This project is a consortium activity of twelve participating institutes and IIT Delhi is coordinating institute at national level. IIT Bombay is coordinating the activities in Western Region.

Swayam-NPTEL and VLabs are two portals delivering technical content through ICT.



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**.

Salient Features:

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.

Broad Areas of Virtual Labs:

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

Contributing institutes:



IIT KHARAGPUR



IIT ROORKEE



IIT GUWAHATI



IIT DELHI



IIT BOMBAY



IIT KANPUR



IIIT HYDERABAD



AMRITA VISHWA
VIDYAPEETHAM



IIT MADRAS



DAYALBAGH
EDUCATIONAL
INSTITUTE



NIT KARNATAKA

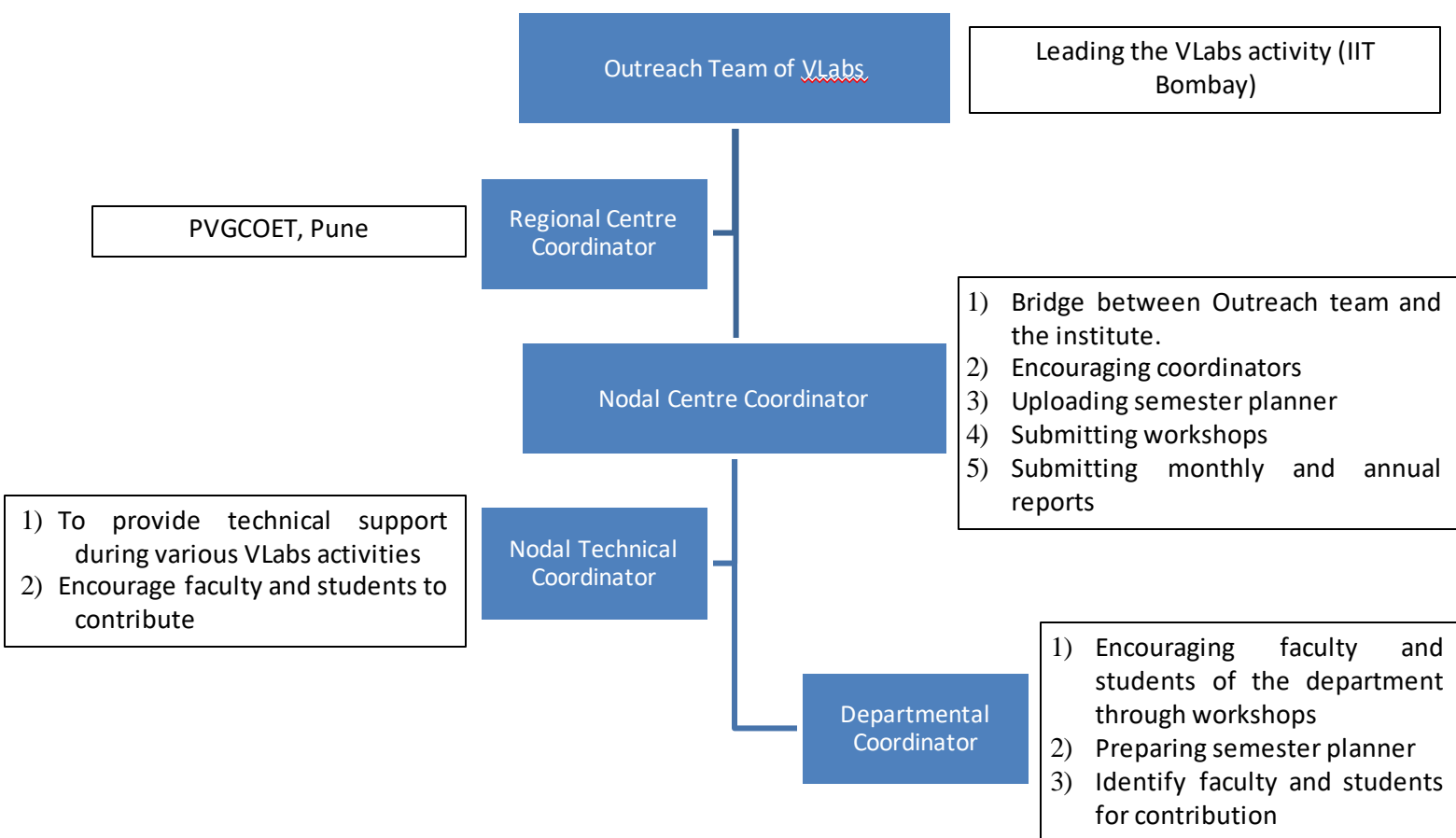


COE PUNE

Expected Benefits:

- Ability to **conduct practical remotely** in existing scenario
- Addition of a **teaching pedagogy**
- Opportunity to get **national visibility**
- Opportunity of **outreach**

Organizational Structure and responsibilities:



The Team:

Sr. No.	Name of the co-ordinator	Designation / Role	Name of the department
1	Dr. Swapnil P. Awate	Nodal Centre Coordinator	Mechanical Engineering
2	Ms. Sunita V. Pawar	Nodal Technical Coordinator	Computer Engineering
3	Dr. Akshaykumar M. Bhoi	Departmental Coordinator	Civil Engineering
4	Ms. Sunita V. Pawar	Departmental Coordinator	Computer Engineering
5	Mr. Viraj R. Sonawane	Departmental Coordinator	E&TC Engineering
6	Mr. Yogesh. S. Bhavsar	Departmental Coordinator	Engineering Sciences
7	Ms. Tejaswini. S. Pawar	Departmental Coordinator	Information Technology
8	Dr. Abhijit. R. Kulkarni	Departmental Coordinator	Instrumentation and Control Engineering
9	Mr. Manoj. S. Patil	Departmental Coordinator	Mechanical Engineering