



Department of Electronics and Telecommunication Engineering

SHORT TERM TRAINING PROGRAM

**University of Mumbai Approved One Week Short Term Training Program
on**

“Hands-on Skill based Laboratories for EXTC Engineers”

2nd May 2022 to 7th May 2022.

The objective of the Hands-on Skill based Laboratories for EXTC Engineering training program is to learn to create tools with skill lab software's that will help to implement new ideas and solve difficult problems. Learning of Linux, Raspberry Pi, and FPGA will help to apply our research to interesting and challenging real-world problems. This STTP provides comprehensive coverage of Skill based Lab and its applications while providing opportunities for Hands-on practicals.

The purpose of this STTP is to bring together researchers & PG students from academia and Engineers & Scientists from industry and R&D institutes to have discussions on various ways in which these software tools can be used to carry out research.



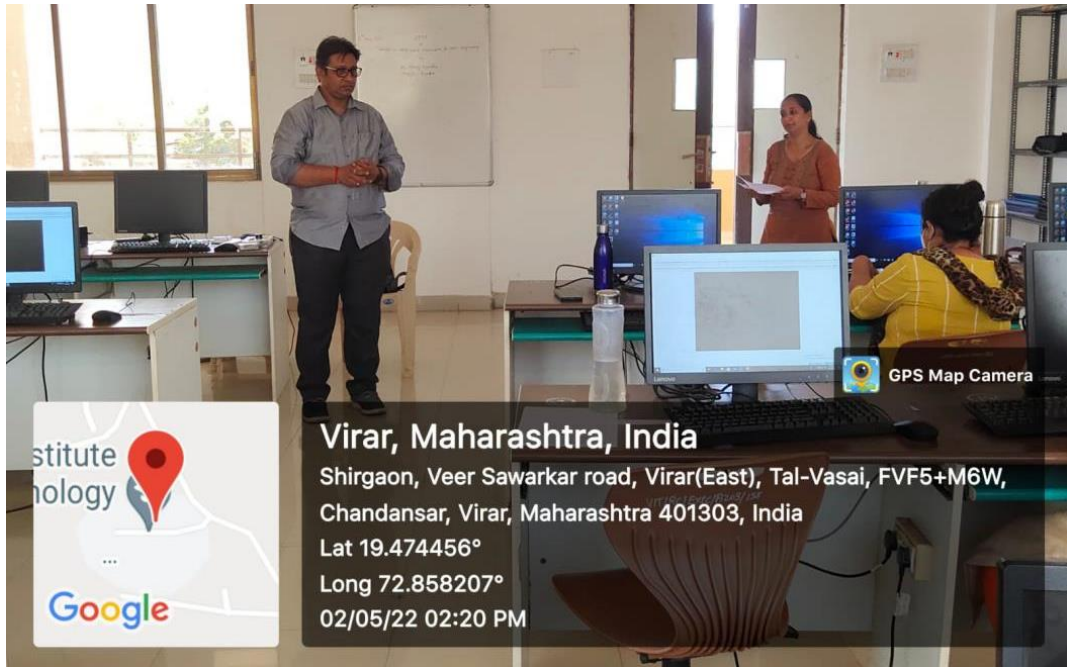
Dr. Harshali Patil explaining Linux Operating System



Vishnu Waman Thakur Charitable Trust's
VIVA Institute of Technology
Shirgaon, Virar (East), Tal: Vasai, Dist: Palghar-401305, Maharashtra.
Website: www.viva-technology.org



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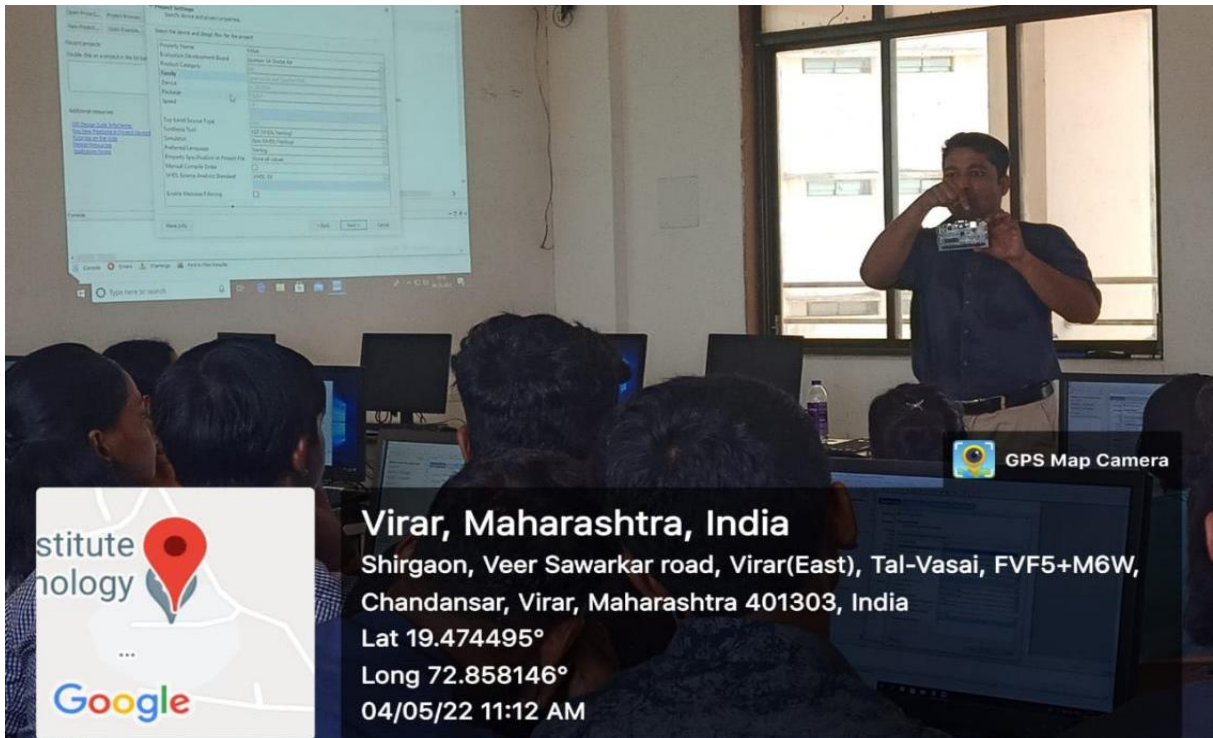
Prof. Manoj Kavedia explaining Raspberry Pi



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Prof. Sagar Mhatre explaining FPGA Design and Implementation



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Topics Covered in STTP on “**Hands-on Skill based Laboratories for EXTC Engineers**”

- History and Introduction to Linux Operating System
- Linux commands and shell scripting
- Loping Structure & Shell Loop Control
- Introduction to Raspberry Pi with timeline and model
- Rpi board details & OS Installation
- Introduction to Basics of FPGA/CPLD
- RTL Design
- Combinational and Sequential circuit design simulation
- FPGA Design and Implementation
- Interfacing of FPGA Board
- Interfacing with Sensors, Actuator, Telegram & Camera
- Project demonstration using Raspberry Pi
- Introduction to Arduino and how it works
- Implement embedded systems with different sensors and peripherals as IoT.
- Program Arduino using Arduino IDE for real life applications

Details of the speakers is as under

SN.	Name of the Guest Speaker	Details of the Speaker	Topics Addressed	Date
1	Dr. Harshali Patil	Associate Professor MET ICS Bandra(W)	History and Introduction to Linux Operating System Linux commands and shell scripting Loping Structure & Shell Loop Control	2 nd May 2022
2	Prof. Manoj Kavedia	Assistant Professor, Thadomal Sahani College of Engineering Bandra(W)	Introduction to Raspberry Pi with timeline and model Rpi board details & OS Installation	2 nd May 2022



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3	Prof. Sagar Mhatre	Assistant Professor K.J. Somaiya Institute of Engineering and Information Technology, Sion	Introduction to Basics of FPGA/CPLD, RTL Design Combinational and Sequential circuit design simulation FPGA Design and Implementation Interfacing of FPGA Board	4 th May 2022
4	Prof. Manoj Kavedia	Assistant Professor, Thadomal Sahani College of Engineering Bandra(W)	Interfacing with Sensors, Actuator, Telegram & Camera Project demonstration using Raspberry Pi	5 th May 2022
5	Ms. Nutan Malekar	Assistant Professor, VIVA Institute of Technology	Introduction to Arduino and how it works Implement Embedded systems with different sensors and peripherals as IoT. Program Arduino using Arduino IDE for real life applications	6 th May 2022

At the end of STTP:

The participants learnt the skills of Linux, R-Pi board, FPGA board and Arduino based projects. After the completion of this course the participants had knowledge of Hands-on Skill based Laboratories for EXTC Engineers

As new developments are introducing in the syllabus day by day demanding expertise in the field of EXTC, it was felt necessary that the teaching faculty also become competent in the said field. In this training program we all participants had hand-on practice based on Skill Lab.

On the last day of STTP institute had received the feedbacks from the participants that they have learned and enhanced their knowledge in this STTP and they would always want to attend this kind of STTP in this institute once again. The overall feedback of the Training Program was encouraging and was highly rated by the participants.