



Vishnu Waman Thakur Charitable Trust's
VIVA INSTITUTE OF TECHNOLOGY
(Approved by AICTE, New Delhi, DTE, Govt. of Maharashtra and Affiliated to the University of Mumbai)
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COMPUTER ENGINEERING DEPARTMENT

Academic Year 2021 - 22

**Report on ISTE Approved One Week Short Term Training Program on
Automation & Monitoring using IOT in Computer Engineering organized by
Computer Engineering Department**

IoT is a giant, digitally connected universe of billions of physical devices around the world; “things” that collect and share data about how they’re used and the environment around them. These objects are embedded with internet connectivity, software, sensors, and other hardware that enable them to connect and exchange data with other systems and devices over the web.

IoT extends the power of the internet beyond smartphones and computers to ordinary household objects such as lightbulbs, locks, smart microwaves, wearable fitness devices, sophisticated industrial tools, and self-driving cars, affording them a higher degree of analytical and computing capabilities.

IoT has many uses; however, it depends on key technologies and components to connect devices to the internet, such as:

- Sensors to collect the data from the environment for the IoT system to process it
- Connection and identification from the device to the IoT system through an IP address
- Actuators that allow the devices to take action based on data from their own sensors and network feedback
- IoT gateway to bridge data from the different devices to reach the cloud. It also translates the devices’ protocols into one standard protocol and filters out unnecessary data from the devices.

- The cloud, where all data from the IoT devices is gathered and processed by software
- User interface, from where users get the data from the devices so that they can make the required commands that the devices need to execute

Automation ties all these components together and ensures that processes work smoothly without the involvement of a human being.

Due to this reason, the Short term training program (STTP) was organized by the Computer Engineering Department, VIVA Institute of Technology. The speaker was from Tech Cryptors, Mumbai.

STTP on Automation & Monitoring using IOT in Computer Engineering

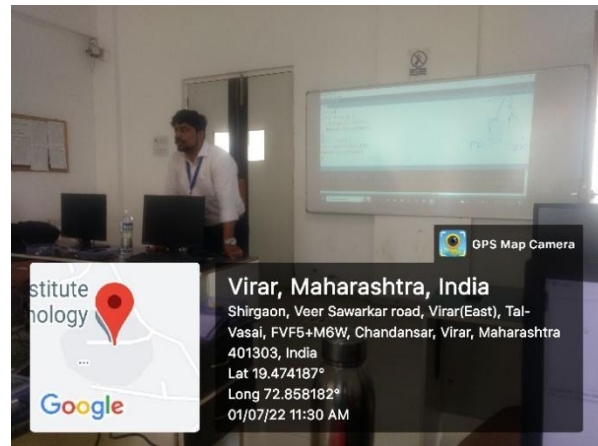
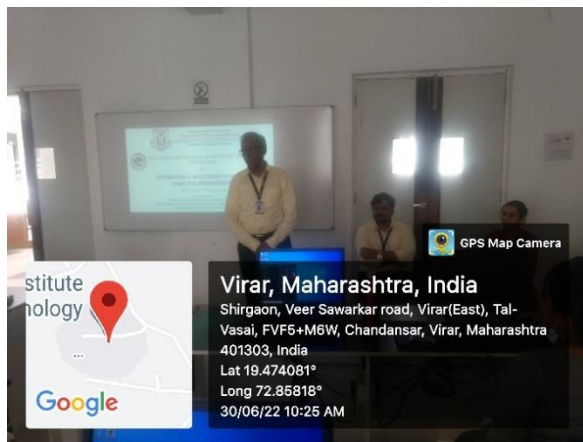
The objective of the ISTE Approved STTP was

- To appraise the participants with the urgent need of IOT
- To help the participants practically understand components used in IOT and their calibration
- To provide hands-on training to demonstrate fundamental concepts of IoTS

The ISTE approved STTP was conducted from 30th June to 5th July, 2022 in VIVA Institute of Technology, Computer Engineering. The inauguration was attended by Principal Dr. Arun Kumar, Mr. Yadnesh Mohan Zagade.

Sr. No.	Date	Topics Covered
1	30 th June 2022	Introduction to UOI & IOT, practically explored components, sensors, microcontrollers, Arduino Boards Hardware
2	1 st July 2022	Coding for controlling Buzzer through Arduino, Motor driver & architecture of its hardware chip, IR Sensor, Calibration of IR Sensor with different components like LED, RGB, Motor, buzzer etc.
3	2 nd July 2022	Pulse Width Modulation, Calibrating potentiometer with different components like LED, RGB, Motor, buzzer etc.,

		Calibrating ESP 8266 with our Microcontroller by coding our own programs in C Embedded, structure of WiFi breakout board
4	4 th July 2022	Interfacing our complete system with Internet using ESP 8266, Calibrating system with server-based app for reading real time sensor values on.
5	5 th July 2022	Quiz





The speaker was very well received by the attendees. The attendees gave very good feedback to the speaker. A total of 18 participants participated in the One week ISTE approved short term training program.