An Initiative of Ministry of Electronics & Information Technology (MeitY) Government of India

A Faculty Development Program

On

Internet of Things and Its Industrial Application

17/3/2025 to 21/3/2025

Under the aegis of
Electronics & ICT Academy, IIT Roorkee

In the collaboration with
GIET University, Gunupur (Hub)
and Ajay Binay Institute of Technology Cuttack (Spoke)

Prerequisites

No experience is required, but fundamental knowledge of any programming language would be helpful.

Course Features

- 40 Hours of Lectures, Hands-on & Pedagogy/Industry sessions
- Lectures from Expert Speakers, Hands-on from industry/ Academia experts
- Access to learning material and video lectures¬
- Certificate by E&ICT Academy IIT Roorkee

Who Should Register?

Any Interested Faculty/PhD-Scholars UG/PG/ & Industry Persons can register.

These FDPs can be considered in alignment with other Quality Improvement Programs (QIP) as well as NBA and NAAC for recognition/credit.

Why this course?

The Faculty Development Program is designed to provide faculty members with an in-depth understanding of the Internet of Things (IoT), including its core concepts, technologies, and practical applications in various industries. Participants will learn about IoT system architecture, sensors, communication protocols, data processing, and real-world use cases that demonstrate IoT's transformative role in sectors such as manufacturing, agriculture, healthcare, and smart cities.

Objectives of the course

- Equip participants with fundamental knowledge of IoT architecture, components, and how IoT systems operate.
- Familiarize faculty with the core technologies and tools that power IoT, such as sensors, communication protocols, and data processing platforms.
- Enable faculty to set up and manage IoT devices, sensors, and basic IoT networks.
- Offer practical training on connecting IoT devices to cloud platforms for data collection and remote monitoring.
- Teach faculty about various communication protocols used in IoT systems, including Wi-Fi, Bluetooth, Zigbee, and LPWAN technologies.
- Explore best practices for data transmission, security, and scalability in IoT networks.

Registration Fee

Fees: ₹ 250/participant, non-refundable (Applicable for all)
Note: Refund will be done in case of course cancellation only within 20 working days

How to make Payment: https://eict.iitr.ac.in/instruction-for-payment/
Conference Code: EICTIITR-FDP-25-06
Registration Link: https://forms.gle/QJRSYSzyx6dQz1UM9

Accommodation

Accommodation on a sharing basis will be provided based on the availability of guest rooms on a paid basis.

Accommodation charge: (INR 1200/day/person)
Contact - sibofromgiet@giet.edu (9437234031) for booking

Principal Investigator

Prof. Sanjeev Manhas, ECE Department, IIT Roorkee

Course Coordinators

Dr. Raghvendra Kumar, CSE Department, GIET University

Focus Areas

- Understanding IoT: Definition, components, and characteristics of IoT systems.
- IoT Architecture: Layers of IoT architecture (sensing, network, processing, application).
- IoT Devices and Sensors: Overview of different types of sensors (temperature, humidity, motion, etc.) and their applications.
- IoT Communication Protocols: Introduction to communication protocols like MQTT, HTTP, CoAP, and their applications in IoT.
- IoT System Design Principles: Design and architecture considerations for building an IoT system.
- IoT Platforms and Tools: Introduction to cloud-based IoT platforms like AWS IoT, Microsoft Azure IoT, and Google Cloud IoT.
- Device-to-Cloud Communication: Connecting IoT devices to cloud platforms for remote monitoring and data collection.
- Data Collection Methods: Techniques for collecting data from IoT devices and sensors.
- Data Processing and Edge Computing: The role of edge computing in real-time data processing and analysis.
- IoT Data Analytics: Tools and techniques for analyzing IoT data, including Python libraries (Pandas, NumPy) and visualization tools.

Reach Us:

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