

**A Report on Five-Day Skill Development Program on
"IoT Innovators Bootcamp: Empowering Future Tech Leaders"
Organised by MITS Skill Development Cell in Association with
Department of Electronics and Communication Engineering
from 25.11.2024 - 29.11.2024.**



Report Submitted by: Dr. Suman Saurav, Assistant Professor, Department of ECE; Dr. Devashish, Assistant Professor, Department of ECE.

Venue: ECE Lab / ECE Computer Lab

Mode of Conduct: Offline.

Report Received on 09.12.2024.

Objective:

The program aimed to enhance students' technical skills in the Internet of Things (IoT) through practical sessions, hands-on workshops, and a capstone project demonstration. It sought to bridge the gap between academic learning and industry demands by providing a comprehensive understanding of IoT technologies, equipping participants with the necessary tools to thrive in the rapidly evolving technological landscape. The event started on 25/11/2024 at 10 AM. Day wise program summary are as follows.

Day-Wise Summary

Day 1: Introduction to IoT (25/11/24)

Resource Person: Dr. Mohit Kumar Singh

Session Content: Basics of IoT, its applications, architecture, and recent trends.

Mode of Delivery: Lecture and Demonstration.

Outcome: Students gained a clear understanding of IoT fundamentals, including its structure and potential use cases in real-world applications.

Day 2: IoT Hardware and Networking (26/11/24)

Resource Person: Dr. Mohit Kumar Singh and Dr. Devashish

Session Content: Introduction to sensors, actuators, microcontrollers, and connectivity protocols (e.g., Wi-Fi, Zigbee).

Mode of Delivery: Lecture and Hands-on Workshop.

Outcome: Participants successfully assembled basic IoT setups and gained confidence in using hardware components effectively.



Day 3: IoT Programming (27/11/24)

Resource Person: Dr. Rakesh Nath Tiwari and Dr. Suman Saurav

Session Content: Programming microcontrollers such as Arduino and ESP32, and utilizing IoT platforms like ThingSpeak and MATLAB for project development.

Mode of Delivery: Coding Session.

Outcome: Students developed basic IoT projects and understood how to programmatically control devices in an IoT network.

Day 4: Data Management and Security (28/11/24)

Resource Person: Dr. Suman Saurav

Session Content: Data analytics, cloud integration, and addressing IoT security challenges.

Mode of Delivery: Practical Demonstration.

Outcome: Participants deployed IoT projects securely, learning critical data management and security protocols.

Day 5: Capstone Project Development (29/11/24)

Resource Person: Dr. Janmoni Bora

Session Content: Comprehensive IoT project development process, focusing on problem-solving, implementation, and team collaboration.

Mode of Delivery: Group Activity.

Outcome: Students showcased innovative IoT solutions, demonstrating their ability to conceptualize and deliver functional projects.



The program concluded on 29th November 2024. The Head of the Department expressed gratitude to the resource persons, participants, and organizing team for the success of the program.

Program Outcomes:

- Acquired foundational knowledge and practical skills in IoT technologies.
- Developed expertise in IoT hardware, programming, and secure data management.
- Gained experience in integrating IoT components into functional systems.
- Successfully designed and implemented innovative IoT solutions through collaborative teamwork.
- Bridged the gap between theoretical concepts and industry-relevant applications.

Participant Feedback:

Feedback from participants was highly positive, with many expressing appreciation for the hands-on approach and practical focus of the program.

Conclusion:

The **IoT Innovators Bootcamp** achieved its goal of equipping students with industry-relevant IoT skills. The program's hands-on methodology and expert guidance fostered innovation and practical expertise among participants, preparing them to explore advanced IoT solutions and meet industry challenges effectively.

The department looks forward to conducting similar initiatives in the future to nurture and empower aspiring tech leaders.