IoT in Healthcare Training Program

Objectives

The IoT in Healthcare Training Program is designed to provide participants with an in-depth understanding of how Internet of Things (IoT) technologies are transforming modern healthcare. The program aims to equip learners with knowledge of connected medical devices, wearable sensors, patient monitoring systems, and healthcare data analytics. It emphasizes both theoretical foundations and hands-on applications to prepare learners for real-world implementation in hospitals, clinics, and remote healthcare solutions.

Key Modules

1. **Introduction to IoT in Healthcare** – Basics of IoT, smart healthcare ecosystem, current trends.
2. **Wearable Devices & Sensors** – Biosensors, fitness trackers, ECG, EEG, glucose, and temperature monitoring devices.
3. **Remote Patient Monitoring Systems** – IoT-enabled platforms for chronic disease management and elderly care.
4. **Wireless communication protocols**: Wi-Fi, RFID, Bluetooth.
5. **Cloud integration with platforms** like ThingSpeak ,Blynk, Telegram app.
6. Data visualization, alerts, and automation setup

Outcomes

By the end of this program, participants will:

- Understand the role of IoT in revolutionizing healthcare delivery.
- Gain practical skills in integrating sensors, microcontrollers, and cloud platforms for medical applications.
- Develop prototypes for patient monitoring and remote healthcare solutions.
- Learn to analyze healthcare data for predictive diagnostics.
- Build smart Health care systems.

Curriculum:

1. Introduction to Embedded C.
2. Introduction to Embedded system
3. Introduction to IoT in Healthcare
4. Working on Different microcontroller such as 8Mega8, Pic microcontroller.
5. Fundamentals of Embedded Systems in Agriculture.
6. Interfacing of sensors and create Cloud platforms for healthcare system.
7. Software and Hardware design.
8. Working on Arduino and Raspberry Pi.
9. 8)Introduction to ESP32,NodeMCU ,RTOS and etc
10. 9)create oximeter, BPmeter and etc
11. 10)Project work.