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INTERNET OF THINGS

Course Syllabus

1. Introduction

- 1.1 IOT
- 1.2 IOT applications
- 1.3 IOT Devices
- 1.4 IOT computers
- 1.5 Web of Things (WOT)
- 1.6 AI

2. Technology & Tools

- 2.1 IOT architecture
- 2.2 Technologies
- 2.3 Tools
- 2.4 Sensors and actuators
- 2.5 Embedded systems
- 2.6 Python, Raspberry Pi, Arduino

3. Communication Protocols & tools

- 3.1 Various communication protocols
- 3.2 M2M communication
- 3.3 WOT architecture
- 3.4 Building applications using WOT
- 3.5 Big data and Cloud connecting
- 3.6 Webservices
- 3.7 Best practices

4. Practical workshops (IOT)

- 4.1 Connecting and managing the devices
- 4.2 AI controlled devices
- 4.3 Real time monitoring of IOT devices
- 4.4 Real world application design, development & implementation



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Course duration - 56 hours

Course schedule

Weekdays (Monday to Friday) - 2 hours daily

Weekends (Saturday & Sunday) - 8 hours each day

Certificate of completion

Course Outcome

Upon completing this course, you will be able to:

1. Understand and define the term "Internet of Things"
2. Evolution and Impact of IoT
3. Define what an embedded system is in terms of its interface
4. Enumerate and describe the components of an embedded system
5. Describe the interactions of embedded systems with the physical world
6. Name the core hardware components most commonly used in IoT devices
7. Describe the interaction between software and hardware in an IoT device
8. Describe the role of an operating system to support software in an IoT device
9. Explain the use of networking and basic networking hardware
10. Describe the structure of the Internet
11. Describe the meaning of a "network protocol"
12. Explain MANETs and their relation to IoT

