

AIT501 Internet of Things 101

Level: 5

Credit Units: 5 Credit Units

Language: ENGLISH

Presentation Pattern: EVERY JULY

Synopsis:

Internet of Things (IoT) describes the concept of connecting things (any objects) over the internet. These things have embedded sensors and actuators which aid in the collection/ generation of the data and also perform certain actions through the actuators. The connection between things in IoT can be direct between the things or between physical objects and a back-ned data center in cloud or in the premises. This course gives a detailed introduction to the IoT architecture and the components in a IoT system. This course enables ones to see the complete picture of the functioning of an IoT system, i.e., the connection of sensors/ things, data generation, processing, storage, analytics and deriving meaningful inference or action from the data.

Topics:

- IoT Architecture
- Sensors and actuators
- IoT Protocol Layers
- Connectivity
- Introduction to Data Engineering
- Data Pipeline
- Data formats
- Data Management
- Introduction to Data Analytics
- Importance of Domain Knowledge
- Edge and Cloud Computing
- IoT and Digital Twin

Learning Outcome:

- Examine the IoT architecture.
- Recommend suitable devices and sensors for the IoT system.
- Sequence the communications in an IoT system.
- Plan the resources for implementing an IoT system.
- Assess the impacts of edge and cloud computing for IoT systems.
- Inspect the protocol layers used for establishing the connectivity in IoT systems.

Assessment Strategies - Regular Semester (Evening Class):

Components	Description	Weightage Allocation (%)
Overall Continuous Assessment	PARTICIPATION 1	10
	GROUP BASED ASSIGNMENT 1	40

Overall Examinable Components	ECA	50
Total		100

*The information listed is subject to review and change.