







### **PROGRAM OBJECTIVE**

Foundational Curriculum for Internet of Things is aimed at upskilling those who have a basic understanding of programming or electronics, to help them expand their knowledge and learn the fundamentals of IoT technologies at a foundation level. This Curriculum has been divided into five modules. While the first is an introductory module, the remaining four each correspond to the different layers of the IoT tech stack.

#### **MODULE**



#### Introduction to IoT

Fundamentals and basic and skills that an individual must possess before being trained on the core concepts of the Internet of Things. IoT stack, Applications, and Data Management - IoT Trends & Applications

Theory: 5 hours

#### **MODULE**



#### **IoT Devices**

Essential knowledge and skills are covered to the aspirants who have to possess before developing embedded devices. The objective of this course is to expose the aspirants and students to understand how important the embedded devices as data acquisition devices are

Theory: 8 hours - Practical: 2 hours

#### **MODULE**



#### **IoT Networking and Communications**

Expertise learnings all about the high priority areas of designing and developing networking and connectivity solutions across the IoT stack.

Theory: 10 hours

#### **MODULE**



#### **IoT Data Storage and Analysis**

Strong learning on the fundamentals of cloud platforms and the basic knowledge and skills that an individual must possess to collect, store and analyze data obtained from disparate sources across the IoT stack.

Theory: 8 hours - Practical: 2 hours

#### **MODULE**



#### **IoT Security and Privacy Theory**

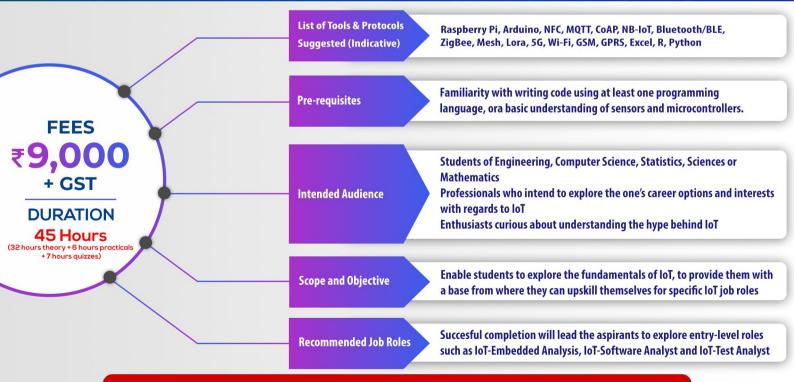
Conventional knowledge and skills gaining through this coverage to implement security guidelines and architecture across the IoT solution in a real-time environment

Theory: 8 hours - Practical: 2 hours

## **WHAT WILL YOU**

# **LEARN?**

- Explain the role of IoT in transforming businesses and customer use cases
- Discussing the key application areas of IoT such as remote monitoring, asset tracking, production optimization, predictive maintenance and the development of new products and services
- Explaining the applications of various components used in IoT solutions such as sensors, actuators, microcontrollers, circuit boards, embedded chips, gateways, cloud platforms, etc.
- Understanding the key areas of IoT network concepts such as gateways, Service-oriented Architecture, interoperability, M2M and network scalability
- Evaluate the various IoT communications protocols and determine best fit for different IoT applications
- Understand key IoT network concepts such as gateways, Service-oriented Architecture, interoperability, M2M and network scalability
- Explain the various layers of the IoT stack and explain what constitutes an IoT architecture
- Discuss the applications of various components used in IoT solutions
- Understand the applications of embedded systems and appreciate the importance of embedded devices as data acquisition devices
- Discuss various IoT communications protocols and determine best fit for different IoT applications
- Discuss the different models of cloud computing
- Discuss the possible uses of analytics solutions to leverage data generated by IoT
- Evaluate the basic principles of security design and architecture and the commonly used methods to mitigate security risks to IoT solutions



Quizzes/Knowledge Check 450+ | Access Duration: One Year from the date of registration tification will be awarded for the successful completion of the program

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