

## **(068-CSE-04-02) CSE (IoT & Automation)**

### **Significance of the Program**

In big organizations, the process of streamlining with reduced manual intervention and human error is a major goal. Technological advancements in IoT and Automation can be leveraged to achieve this goal. This leads to increased efficiency, cost savings, and optimized resource utilization.

B.Tech C.S.E. ( IoT & Automation) gives a comprehensive understanding of the developments in IoT and innovative solutions that can be offered in automation through IoT, Cloud Computing and Machine Learning.

### **Career Options**

Pursuing a professional course in B.Tech C.S.E. ( IoT & Automation), students can explore the following opportunities:

1. There's a wide array of career options and opportunities that arise from expertise in IOT (Internet of Things) and automation programs.
2. They will be able work as IoT Engineer to develop, manage, and monitor IoT devices and systems.
3. They will be able to work as Robotics Engineer to design and develop robots for automation purposes, applying IOT principles for connectivity and control.
4. They will be able to work as Automation Engineer to develop, implement, and maintain automated systems in various industries such as manufacturing, automotive, or aerospace.
5. They will be able to lead startups or innovative projects leveraging IOT and automation technologies to create new products or services.

### **Program Objectives**

- To provide students with a deep understanding of the principles, technologies, and architectures behind IOT and automation systems.
- To develop strong problem-solving and critical-thinking abilities necessary for troubleshooting and optimizing IOT systems and automated processes.
- To encourage innovation and entrepreneurial thinking among students, inspiring them to create new applications, products, or services leveraging IOT and automation.
- To offer practical, hands-on experience with IOT devices, sensors, automation tools, and relevant software to ensure students can apply theoretical knowledge in real-world scenarios.

**Outcomes of the Program**

- Students can apply theoretical knowledge in real-world scenarios, implementing IOT devices, sensors, and automation tools to solve practical problems or optimize processes.
- Students gain a strong foundation in IOT and automation principles, equipping them with technical skills to design, develop, and implement IOT systems and automated solutions.
- Students can enhance safety protocols and security measures in IoT Systems. They facilitate real-time monitoring and rapid response to potential security threats or emergencies.

**Major Course Outline**

1. Mathematical Foundations in Computer Science
2. IOT Architecture and Technologies
3. Cloud Computing and IOT
4. Machine Learning for IOT
5. Automation and control systems
6. IOT Security and Privacy