(153-SCI-09-02) B.SC. EMBEDDED SYSTEMS AND IOT

SIGNIFICANCE OF THE COURSE

The fields IoT and Embedded are growing exponentially in Industry 4.0. It is changing the way we live and work, and will open up opportunities that we weren't even aware of. It is projected that there will be about 50 billion IoT devices connected to the internet by 2030.The demand for people with Embedded & IoT skills is on the rise. Internet of Things (IoT) is a network of inter-connected physical objects that are accessible through the internet. The embedded technology in the objects helps them to interact with internal states or the external environment, which in turn helps in decision making. The intention in introducing this innovative, demanding course, B.Sc. (ES &IoT) is to make the students grow with the pace of the rapid academic and industry advancements. The course is tailored to meet the demands of companies and is made industry-focused.

CAREER OPPORTUNITIES:

With the growing demand for IoT expertise, professionals with the right skills and knowledge can make significant contributions and forge successful careers in exciting fields like Industry Transformation, Smart Cities and Infrastructure, Health Care, Data Analytics and AI, Cyber security and Privacy, IoT Development and Integration, Entrepreneurship and Innovation and Research and Development.

OUTPUTS	OUTCOMES
• Gains knowledge in the complete IoT design and development cycle, using modern embedded architectures and technologies. • Equipped with real world application scenarios of IoT along with its societal and economic impact. • Acquires Knowledge and skills in core areas of Electronics with more focus on signal processing, communication and the	• Enables them to contribute professionally in an industrial, research and applications environment. • Enables them to apply the developed skills to crack the societal challenges using IoT.

integration and deployment of IoT applying the concepts of embedded hardware.	

MAJOR COURSE MODULES

- IoT & Embedded enabling technologies, programming, sensors and components.
- IoT using Raspberry Pi and Arduino.
- Wired and Wireless Communication Networks and Security.
- Internet of Things stacks and usage on sensors.
- Reconfigurable Hardware Design.
- Image Processing and Computer Vision.
- Illustration and evolution of 5G IoT applications including smart cities, water waste, and agriculture.