

BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - VII Computer Science & Business Systems : SUMMER : 2025
SUBJECT: INTRODUCTION TO IOT

Day : Thursday
Date : 15/05/2025

S-24201-2025

Time : 02:30 PM-05:30 PM
Max. Marks : 60

N.B.

- 1) All questions are **COMPULSORY**.
- 2) Figures to the **RIGHT** indicate **FULL** marks.
- 3) Assume suitable data, if necessary.
- 4) Draw neat and labeled diagrams, **wherever** necessary.

Q.1 What is the internet of things (IoT), and how does it differ from traditional internet-based systems? (10)

OR

Q.1 Describe the role of sensors, connectivity and data processing in IoT, systems. Provide examples of their interactions. (10)

Q.2 What is edge computing, and how does it enhance IoT systems? Discuss the role of IoT gateways in enabling edge computing. (10)

OR

Q.2 Describe the data ingestion and data processing pipeline in an IoT ecosystem. How does data stream processing differ from traditional batch processing? (10)

Q.3 What are sensors and transducers? Discuss their difference and provide examples of how they are used in industrial systems. (10)

OR

Q.3 Explain the process of integrating sensors with sensor processing boards in detail. (10)

Q.4 Discuss the Modbus protocol and its applications in industrial IoT networks. How does it support communication between devices? (10)

OR

Q.4 Explain the CANbus protocol and its role in industrial networking. How does it differ from Modbus in terms of architecture and application? (10)

Q.5 Explain how IoT devices communicate with cloud applications using web services. What is the role of REST in this communication? (10)

OR

Q.5 Compare TCP/IP and UDP/IP sockets in the context of IoT applications? In which scenarios would each be preferable? (10)

Q.6 What are time series data, and what are their key characteristics? Provide examples of how they are used in IoT applications. (10)

OR

Q.6 Explain the role of time series database in IoT systems. How do they differ from traditional relational database? (10)

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