

Computer Science & Business Systems
BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)
B. Tech. Sem - VII CS&BS : WINTER : 2024
SUBJECT: INTRODUCTION TO IOT

Day : Wednesday
Date : 11/12/2024

W-24201-2024

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 Differentiate between consumer IoT and industrial IoT. How do their goals and technologies differ? (10)

OR

Q.1 What are the fundamental building blocks of an IoT architecture? Discuss each block briefly. (10)

Q.2 What is a reference architecture and why is it important? Describe the key layers of a typical IoT architecture. (10)

OR

Q.2 Explain the Industrial Internet Reference Architecture (IIRA) in detail. (10)

Q.3 What is an industrial data acquisition system? Describe its components and explain how it is used for monitoring and analyzing industrial processes. (10)

OR

Q.3 What are industrial control systems (ICS), and what are their primary functions? Provide example of different types of ICS used in industrial applications. (10)

Q.4 Describe the OSI 7 – layer architecture. How is it mapped to an IoT architecture, and what unique challenges does IoT introduce at different layers? (10)

OR

Q.4 What are proximity networking technologies in IoT? Components zigBee, Bluetooth and Serial Communication? (10)

Q.5 What is MQTT, and why is it widely used in IoT systems? Discuss its key features and benefits. (10)

OR

Q.5 Describe web sockets their role in real time communication for IoT application? How do they differ from traditional HTTP-based communication? (10)

Q.6 What are the basic techniques used for time series analytics? How do these technique help in understanding IoT data? (10)

OR

Q.6 What is data summarization, and why is it important in IoT systems? Explain the concept of sketching in the context of large-scale data. (10)

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