T. Y. Bsi. Comp-sci. cbcs   dt - 21/02/25

Time: (2½ Hours)   **[Total Marks: 75]**

N. B.: (1) **All** questions are **compulsory**.
        (2) Make **suitable assumptions** wherever necessary and **state the assumptions** made.
        (3) Answers to the **same question** must be **written together**.
        (4) Numbers to the **right** indicate **marks**.
        (5) Draw **neat labeled diagrams** wherever **necessary**.
        (6) Use of **Non-programmable** calculators is **allowed**.

1. **Attempt *any four* of the following:**   20
a. Describe an IoT architecture.
b. What are the main design principles and needed capabilities of an IoT system?
c. What are the standards considerations of an IoT system?
d. Explain the reference Model and architecture.
e. Write a note on Deployment and Operational view of an IoT system.
f. Explain the Information view of an IoT system.

2. **Attempt *any four* of the following:**   20
a. Write a short note on 3GPP.
b. Explain in short note RPL and CORPL. What is difference between Protocol.
c. How MCMP Works? Discuss the advantages with an example.
d. Justify the need of WLAN? Describe its advantages.
e. Compare between passive and active RFID with the help of Dash7 network.
f. State 6LoWPAN functions and characteristics.

3. **Attempt *any four* of the following:**   20
a. Discuss in brief about the broadband Forum.
b. Explain the importance of MPTCP in IOT.
c. Explain in detail the OMA framework?
d. Identify different transport layer protocols. Explain UDP with its key points.
e. Explain the concept of OneM2M in detail?
f. Distinguish between TCP and UDP.

4. **Attempt *any five* of the following:**   15
a. Differentiate Between Unicast and Multicast.
b. Determine function of HTTP?
c. Discuss Multipath TCP with its key points,
d. Explain basic operations available in XMPP,
e. Explain why MQTT is better than HTTP.
f. Define IoT and its functioning.

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