13/06/2025 TE CSE-AIML SEM-V C-SCHEME IOT QP CODE: 10081467

Time: 3 hours   **Max. Marks: 80**

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Instructions:
1) **Question Number 1 is compulsory.**
2) **Solve any three questions out of remaining five questions.**
3) **Each Question carry 20 marks.**
4) **Illustrate your answers with neat sketches wherever necessary.**
5) **Figures to the right indicate full marks.**
6) **Assume suitable additional data, if necessary and clearly state it.**
7) **All sub-questions of the same question should be grouped together.**

Q.1	(a)	Compare with suitable parameters the Physical and Logical Design of IoT.	05
	(b)	Explain the role of Bluetooth Low Energy (BLE) in IoT.	05
	(c)	Compare MQTT with MQTT-SN protocol with suitable parameters.	05
	(d)	Explain the concept of the Internet of Behavior (IoB).	05
Q.2	(a)	Explain the responsibilities of Information Technology (IT) and Operational Technology (OT) in the IoT Reference Model.	10
	(b)	Compare with suitable parameters – LTE, LTE-A, LoRa and LoRaWAN.	10
Q.3	(a)	Give the CoAP Message format and describe its message fields.	10
	(b)	Define IoT Analytics. Explain its key components and discuss how IoT Analytics can be applied in real-world scenarios, providing at least two specific examples.	10
Q.4	(a)	Define IoT. Give the characteristics of IoT. Give at least five applications of IoT.	10
	(b)	Describe the steps involved in developing an IoT-based application for Weather or Air Pollution Monitoring.	10
Q.5	(a)	Write a short note on "Data Analytics Verses Business Benefits".	10
	(b)	Explain the protocols and their features built on the IEEE 802.15.4 standard.	10
Q.6	(a)	Give the key components of the STOMP architecture and workflow of STOMP Architecture in IoT.	10
	(b)	Describe the role of visualization and dash boarding in IoT Analytics. How would you approach designing a dashboard for real-time IoT data?	10

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