

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
B.Tech Degree S4 (Minor) Examinations April 2026 (2024 Admn)



Course Code: MNCST429

Course Name: IOT - Architecture, protocols and Applications

Max. Marks: 60

Duration: 2 hours 30 minutes

PART A

(Answer all questions. Each question carries 3 marks)

		CO	Marks
1	Define Internet of Things (IoT) and explain its major characteristics.	CO 1	(3)
2	Explain the main design principles of IoT architecture	CO 1	(3)
3	Differentiate between M2M communication and IoT.	CO 2	(3)
4	Explain Wireless HART.	CO 3	(3)
5	Differentiate between IPv4 and IPv6.	CO 3	(3)
6	What is Zigbee Smart Energy?	CO 4	(3)
7	Explain CoAP protocol.	CO 4	(3)
8	Describe any two security challenges in IoT	CO 5	(3)

PART B

(Answer any one full question from each module, each question carries 9 marks)

Module -1

9	a) Explain the role of devices, gateways, and networking in IoT systems	CO 1	(5)
	b) Describe local and wide area networking technologies used in IoT.	CO 1	(4)
10	a) Discuss data management and business process integration in IoT applications	CO 1	(6)
	b) Compare traditional internet systems with IoT architecture	CO 1	(3)

Module -2

11	a) Explain the IoT Reference Model with suitable diagrams.	CO 2	(6)
	b) Explain real-world design constraints in IoT applications	CO 2	(3)
12	a) Explain Functional View, Information View, and Deployment View in IoT.	CO 3	(9)

Module -3

13	a) Explain PHY and MAC layer protocols used in IoT.	CO 3	(6)
	b) Describe interaction and remote control in IoT	CO 3	(3)

- | | | | | |
|----|----|--|------|-----|
| 14 | a) | Compare Zigbee and Bluetooth Low Energy (BLE). | CO 4 | (5) |
| | b) | Describe the working of ICMP and its role in IoT | CO 4 | (4) |

Module -4

- | | | | | |
|----|----|--|------|-----|
| 15 | a) | Compare TCP and UDP for IoT applications. | CO 5 | (6) |
| | b) | Explain the functionalities of AMQP in IoT messaging | CO 5 | (3) |
| 16 | a) | Describe the importance of MQTT in IoT communication | CO 5 | (6) |
| | b) | Describe how XMPP supports IoT applications. | CO 5 | (3) |
