**Module-1**

1.A] Explain the evolution of IoT. – 6 Marks

1.B] Differentiate between IoT and M2M. – 6 Marks

1.C] Explain IoT networking components. – 8 Marks

OR

2.A] What is IoT? Write the characteristics of an IoT system. – 5 Marks

2.B] With a neat diagram, explain the interdependency technology for IoT planes. – 10 Marks

2.C] Explain addressing strategies in IoT. – 5 Marks

**Module-2**

3.A] With a neat diagram, explain the working mechanism of an actuator. – 6 Marks

3.B] Explain the types of actuators. – 8 Marks

3.C] Define a sensor and explain the characteristics of sensors. – 6 Marks

OR

4.A] List and explain the characteristics of actuators. – 8 Marks

4.B] Explain the major factors influencing the choice of sensors in IoT-based sensing solutions. – 8 Marks

4.C] With a neat diagram, explain scalar and multimedia sensing techniques. – 4 Marks

**Module-3**

5.A] List and explain common data types in IoT applications. – 5 Marks

5.B] With a neat diagram, explain offsite processing topology. – 10 Marks

5.C] Write a short note on offloading considerations. – 5 Marks

OR

6.A] With a neat diagram, explain onsite processing topology. – 5 Marks

6.B] Explain IoT device design and selection considerations. – 8 Marks

6.C] Write a short note on offload location and offload decision-making. – 7 Marks

**Module-4**

7.A] Explain IEEE 802.15.4. – 8 Marks

7.B] Explain the protocol stack of Zigbee and describe the Zigbee network layer. – 5 Marks

7.C] What is RFID? Explain its working. – 7 Marks

OR

8.A] With a neat diagram, explain the deployment and communication architecture of LoRa. – 8 Marks

8.B] Explain the IEEE 802.11 Wi-Fi stack and Wi-Fi deployment architecture. – 5 Marks

8.C] Explain the Bluetooth protocol stack. – 7 Marks

**Module-5**

9.A] Explain the 6LoWPAN packet structure. – 7 Marks

9.B] Describe the LOADng routing. – 6 Marks

9.C] Explain the working of MQTT. – 7 Marks

OR

10.A] What is CoAP? Describe the working of CoAP. – 7 Marks

10.B] What are the various types of interoperability encountered in the IoT environment? – 6 Marks

10.C] Describe the following standards: (i) EnOcean (ii) DLNA. – 7 Marks