

[3 hrs]

[80 Marks]

- Note :**
1. Question 1 is compulsory.
 2. Answer any three out of remaining questions.
 3. Assume suitable data where required.

Q1 Solve any 4

- a) What is the Internet of Behaviour (IoB) and why is it the future? 5
- b) Compare and contrast IoT data analytics and IoT network analytics. 5
- c) Briefly elaborate the Advanced Message Queuing Protocol (AMQP) 5
- d) While designing the IoT based smoke detection system what all parameters need to be considered before choosing the required sensor. 5
- e) Explain applications of Bluetooth Low Energy (BLE) 5

Q2

- a) Compare and contrast Edge, Fog, and Cloud Computing. Explain their usage with an example. 10
- b) Consider smart farming system. Elaborate its working and list down the different types of sensors and actuators required during the deployment scenario 10

Q3

- a) Describe IoT World Forum (IoTWF) Standardized Architecture 10
- b) Explain the architecture of LoRaWAN with its major Characteristics 10

Q4

- a) Explain ecosystem for IoT enabled Smart Home Automation with respect to sensors, actuators, framework, protocols, storage, data analysis, security etc. 10
- b) State advantages of data visualisation. Give different tools used for it. 10

Q5

- a) Elaborate the Smart Object with diagram and describe all the essential components required to make the object into the smart object. 10
- b) Explain the following access technologies with applications area of each 10
 - 1) Zigbee 2) RFID 3) 6LoWPAN 4) CoAP

Q6

- a) Draw and explain Architecture of MQTT with diagram 10
- b) Elaborate the need of new network architecture in IoT. 10
