

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

- Q1 Solve any 4
- Explain ZigBee in brief. 5
  - Explain the Need of lightweight new communications protocols for IoT. 5
  - Explain data retention strategy. 5
  - Write a short note on I-IoT 5
  - Explain functional blocks of IoT 5
- Q2
- Elaborate in detail the strategies to organize Data for IoT Analytics. 10
  - Illustrate the role of Data refineries in preventing data lakes to turn into data swamps 10
- Q3
- Describe the communication system and protocols involved in long range communication system of IoT 10
  - With neat diagram, elaborate briefly the simplified 3 layered IoT architecture. 10
- Q4
- Differentiate and give Hierarchy between Edge, Fog, and Cloud computing 10
  - Consider Smart Irrigation system. Elaborate its working with block diagram and list down the different types of sensors and actuators required during the deployment scenario. 10
- Q5
- Elaborate MQTT with its working in details and two advantages over COAP. 10
  - Illustrate 3 methods for effective Data Visualization 10
- Q6
- Define sensor, actuators and their role and classifications in brief. 10
  - Explain the following access technologies with applications area of each 10
    - IEEE 802.15.4
    - RFID

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