Exam.Code:0925
Sub. Code: 33590

2076

B. E. (Information Technology)

Seventh Semester

OEIT-701: Internet of Things

Time allowed: 3 Hours Max. Marks: 50

NOTE: Attempt five questions in all, including Question No. I which is compulsory and selecting two questions from each Unit.

x-x-x

1. Define the following: -
   a) Push-Pull Communication model
   b) RFID
   c) ZigBee
   d) Industrial IoT
   e) Hybrid Cloud (5x2)

UNIT - I

2. a) Describe the fundamental characteristics of the Internet of Things (IoT). Further, elucidate the various enabling technologies that support the realization and deployment of IoT systems.

   b) Explain the role of sensing and actuation in an IoT system with an example. (6+4)

3. a) Compare Machine-to-Machine (M2M) communication and the Internet of Things (IoT), highlighting their architectural, functional, and technological distinction.

   b) Discuss the major interoperability issues in IoT and suggest possible solutions. (5 +5)

4. a) Compare MQTT and CoAP protocols in terms of suitability for lightweight IoT devices.

   b) Design a conceptual Arduino-based monitoring system for greenhouse temperature control. Explain sensor selection, actuation logic, and data flow. (5+5)

P.T.O.

UNIT - II

5. Evaluate the impact of SDN's control-plane and data-plane decoupling on network flexibility, scalability, and programmability. Also, discuss the advantages of using SDN in large-scale IoT deployments. (10)

6. a) What is cloud computing? How do cloud service models differ in terms of user control and provider responsibility?

   b) Compare Cloud Computing and Fog Computing in the context of latency-sensitive IoT applications. (6 +4)

7. Write short notes on *any two* of the following:-

   a) Sensor Cloud

   b) Data Analytics using IoT

   c) IoT in agriculture (5+5)

x-x-x