Exam.Code:0925
Sub. Code: 33590

2125
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 followings:
   a) 6LoWPAN
   b) Publish Subscribe communication model
   c) Predictive Analytics
   d) ZigBee Coordinator
   e) Interoperability in IoT (5x2)

UNIT - I

2. a) Explain the fundamental characteristics of IoT. Discuss the four pillars of IoT architecture with suitable examples.
   b) Illustrate the complete IoT ecosystem with a neat diagram. Describe how devices, connectivity, data processing, and applications interact within this ecosystem. (6+4)
3. Compare Machine-to-Machine (M2M) communication with Internet of Things (IoT). Elaborate on their architecture, communication models, interoperability issues, and real-world use cases. (10)
4. a) Differentiate between Arduino and a desktop computer with respect to processing power, architecture, OS support, and applications.
   b) Discuss the standardized communication protocols used in IoT. Explain IEEE 802.15.4 standard in detail. (3+7)

UNIT - II

5. Describe the architecture of SDN highlighting the roles of the application, control, and data planes. Also explain the importance of southbound and northbound APIs. (10)
6. a) What is Fog-IoT integration? Explain how Fog computing enhances IoT applications, addressing latency, mobility, scalability, and data processing efficiency.
   b) Discuss the role of IoT-based Data Analytics in modern industries. Explain the data flow from sensing to visualization with suitable examples. (5+5)
7. Write short notes on *any two* of the following:-
   a) Sensor Cloud
   b) IoT in agriculture
   c) Industrial IoT (5+5)

x-x-x