| USN | | | | | | | | | | | 21CST702 |
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**B. E. Degree (Autonomous) Seventh Semester End Examination (SEE), Dec-2024**

**Internet of Things**

**(Model Question Paper - II)**

| [Time: 2 Hours ] | | [ Maximum Marks: 50] |
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**Instructions to students:** Answer Any 5 Full Question

| Q. No. | | QUESTIONS | Marks | COs | RBT Level |
|---|---|---|---|---|---|
| 1 | A) | List the components of IoT and Illustrate the Generic block diagram of an IoT Device. | 4 M | CO1 | L1,L3 |
| | B) | Explain the different IoT enabling technologies. | 6 M | CO1 | L1,L3 |
| | | **OR** | | | |
| 2 | A) | Describe Physical design of IoT in detail | 04M | CO2 | L3 |
| | B) | Describe Communication with REST API's and its Architectural Constraints | 06M | CO2 | L3 |
| 3 | A) | Explain Domain Model specification for Weather Monitoring system | 05M | CO2 | L3 |
| | B) | Explain Domain Model specification for Home Automation for connecting 5 Appliances. | 05M | CO3 | L2 |
| | | **OR** | | | |
| 4 | A) | Distinguish between IoT and M2M in detail. | 04 M | CO1 | L1,L3 |
| | B) | Explain Network Function Virtualization (NFV) and its importance in IoT infrastructure. | 06 M | CO2 | L3 |
| 5 | A) | Explain Domain specific IoT application for Smart Home Automation | 05M | CO2 | L3 |
| | B) | Explain Domain specific IoT application for Retail | 05M | CO2 | L3 |
| | | **OR** | | | |
| 6 | A) | Explain Domain specific IoT application for Smart Cities | 05M | CO3 | L3 |
| | B) | Explain Domain specific IoT application for Industry | 05M | CO3 | L3 |
| 7 | A) | Compare and contrast Raspberry Pi, Arduino, and Tiva boards in terms of their suitability for IoT projects. | 05 M | CO4 | L4,L5 |
| | B) | Discuss the challenges and considerations in selecting IoT boards and sensors for a specific application. | 05 M | CO2, CO4 | L3,L4 |
| | | **OR** | | | |
| 8 | A) | Describe the working principles of sensors and their role in IoT systems. | 05 M | CO4 | L3 |
| | B) | Explain the role of actuators in IoT systems and provide examples of common types. | 05 M | CO4 | L3 |
| 9 | A) | Discuss the role of Apache Oozie in managing Hadoop workflows for IoT data processing. | 05 M | CO5 | L3 |
| | B) | Describe Apache Spark and its advantages over Hadoop MapReduce for real-time data processing in IoT. | 05 M | CO5 | L3 |
| | | **OR** | | | |
| 10 | A) | Explain how Apache Storm is used for real-time data processing in IoT applications. | 04 M | CO5 | L3 |
| | B) | Explain the process of implementing batch data analysis in IoT using Hadoop MapReduce with an example. | 06 M | CO5 | L3 |