CBCS SCHEME

USN | | | | | | | | | | 15EC752

Seventh Semester B.E. Degree Examination, June/July 2023
IoT and Wireless Sensor Networks

Time: 3 hrs.   Max. Marks: 80

Note: *Answer any FIVE full questions, choosing ONE full question from each module.*

Module-1

1 a. Define Internet of Things? Mention its applications and explain with an example. **(06 Marks)**
   b. Briefly explain about MQTT protocol. **(04 Marks)**
   c. What is M2M communication? What are the architectural domain functionalities in M2M Architecture? **(06 Marks)**

OR

2 a. Explain in detail IoT Architecture with neat diagram. **(08 Marks)**
   b. Describe enabling technologies which are used in designing of IoT devices. **(08 Marks)**

Module-2

3 a. Describe cloud computing service models in architecture concept. **(08 Marks)**
   b. What are the functions of HTTP, HTTPS, FTP, TELNET ports? **(08 Marks)**

OR

4 a. What is 6LoWPAN? How 6LoWPAN connects low power IoT devices? **(08 Marks)**
   b. List the features of cloud computing and mention its advantages. **(04 Marks)**
   c. What are deployment models for cloud service for IoT application? **(04 Marks)**

Module-3

5 a. What is Internet of Things Security Tomography? Explain in detail layered attacker model. **(10 Marks)**
   b. What are the five levels in software development for IoT applications and services? **(06 Marks)**

OR

6 a. What is Threat analysis in IoT? Explain detail Threat analysis. **(08 Marks)**
   b. What are the features of Arduino IDE that enable the programming tasks simple at Arduino platform. **(08 Marks)**

Module-4

7 a. What is wireless sensor Networks? List the challenges in WSN? **(04 Marks)**
   b. Explain the concept of Gateway with different scenario in WSN. **(06 Marks)**
   c. With net diagram, explain hardware components of sensor node. **(06 Marks)**

OR

8 a. Discuss about the energy consumption of the different components of a sensor node. **(10 Marks)**
   b. Describe about optimization goals of a WSN and figure of merit in detail. **(06 Marks)**

Module-5

9 a. Explain the concept of LEACH protocol. **(08 Marks)**
   b. Difference between scheduled and contention based protocol in WSN. **(03 Marks)**
   c. Discuss the PAMAS protocol in detail. **(05 Marks)**

OR

10 a. Explain the concept of SMACS protocol. **(08 Marks)**
   b. List the design considerations for MAC protocols in wireless sensor Networks. **(05 Marks)**
   c. What are the advantages of clustering in WSN? **(03 Marks)**

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