

CBCS SCHEME

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15EC752

Seventh Semester B.E. Degree Examination, Dec.2023/Jan.2024 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. What is IoT? Explain the advantages and disadvantages of IoT. (04 Marks)
- b. What is M2M communication? What are the differences between IoT and M2M communication? (06 Marks)
- c. Model the three framework of IoT with all the three equations. (06 Marks)

OR

- 2 a. Explain Constrained Application Protocol (CoAP) for IoT/M2M. (05 Marks)
- b. Explain MQTT protocol for IoT. (05 Marks)
- c. Identify the features of LWM2M with a neat diagram. (06 Marks)

Module-2

- 3 a. Explain the networking protocol 6LOWPAN in IoT. (06 Marks)
- b. Explain HTTPs protocol. (04 Marks)
- c. Compare IPV4 and IPV6. (06 Marks)

OR

- 4 a. Explain in detail different cloud service models used in IoT. (06 Marks)
- b. Explain the features and concerns of cloud computing. (04 Marks)
- c. Explain the cloud computing paradigm for data collection, storage and computing services. (06 Marks)

Module-3

- 5 a. What is IoT security tomography? Explain in detail the layered attacker model. (08 Marks)
- b. Outline the top ten vulnerabilities for attack identified by OWASP. (08 Marks)

OR

- 6 a. Explain the steps for programming the embedded device Arduino platform using IDE. (06 Marks)
- b. Explain eclipse IoT stack. (04 Marks)
- c. Explain the threat analysis. (06 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and/or equations written eg, 42+8 = 50, will be treated as malpractice.

Module-4

- 7 a. Explain the architecture of WSN with a neat diagram. (06 Marks)
b. Explain the characteristic requirements of wireless sensor network. (06 Marks)
c. Explain the different types of sensors. (04 Marks)

OR

- 8 a. Explain the concept of gateway with different scenarios in WSN. (06 Marks)
b. Explain the optimization goals and figure of merit. (06 Marks)
c. Explain the different states of transceiver. (04 Marks)

Module-5

- 9 a. Explain the important classes of MAC protocols in WSN. (10 Marks)
b. Explain the most crucial points influencing physical layer in WSN. (06 Marks)

OR

- 10 a. Explain CSMA protocols. (10 Marks)
b. Explain the LEACH protocol in WSN. (06 Marks)
