



CBCS SCHEME

17EC752

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Seventh Semester B.E. Degree Examination, Jan./Feb. 2021

IOT and Wireless Sensor Networks

Time: 3 hrs.

Max. Marks: 100

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

Module-1

- 1 a. Describe IoT reference model suggested by CISCO. (08 Marks)
- b. With neat diagram, explain M2M architecture. (08 Marks)
- c. Explain the enabling technologies for IoT. (04 Marks)

OR

- 2 a. Explain MQTT protocol for IoT. (08 Marks)
- b. Write and explain modified OSI model for the IoT/M2M system. (08 Marks)
- c. Write and explain 4 layer architectural frameworks developed at CISCO for a city. (04 Marks)

Module-2

- 3 a. Explain Internet Protocol Version 4. (08 Marks)
- b. Explain DHCP protocol for dynamically configuring the IP address and other networks. (08 Marks)
- c. List any 4 important features of HTTP port. (04 Marks)

OR

- 4 a. Explain four cloud deployment models. (06 Marks)
- b. Explain in detail different cloud service models used in IoT. (08 Marks)
- c. List the essential features of cloud storage and computing. (06 Marks)

Module-3

- 5 a. Write and explain traffic light control program using Arduino UNO. (10 Marks)
- b. Explain security requirements and threat analysis. (10 Marks)

OR

- 6 a. Describe how data is read from sensors and devices. (10 Marks)
- b. Explain IOT security tomography and layered attacker model. (10 Marks)

Module-4

- 7 a. Explain single node architecture of WSN with neat diagram. (10 Marks)
- b. Explain optimization goals and figures of merit in WSN. (10 Marks)

OR

- 8 a. Explain gateway concepts. (10 Marks)
- b. Explain challenges and characteristics requirements of WSN. (10 Marks)

Module-5

- 9 a. Explain in brief the LEACH protocol in WSN. (10 Marks)
- b. Explain energy efficient unicast routing. (10 Marks)

OR

- 10 a. Explain SMAC protocol. (10 Marks)
- b. Explain CSMA protocol. (10 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.