

CBCS SCHEME

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15CS81

Eighth Semester B.E. Degree Examination, Aug./Sept.2020 Internet of Things and Technology

Time: 3 hrs.

Max. Marks: 80

Note: i) For Regular Students: Answer any FIVE full questions irrespective of modules.

ii) For Arrear Students : Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Define IoT and discuss the Genesis of IoT in detail. (04 Marks)
- b. List out the difference between IT and OT networks and their various challenges. (06 Marks)
- c. List out the most significant challenges and problems that IoT is currently facing. (06 Marks)
- 2 a. List and explain the defining characteristics of fog computing. (06 Marks)
- b. Explain the IoT reference model published by the IoTWF. (10 Marks)

Module-2

- 3 a. Define sensor and its characteristics. (06 Marks)
- b. List out the most useful classification scheme for the pragmatic application of sensors in a IoT network. (10 Marks)
- 4 a. Briefly describe about communication criteria. (08 Marks)
- b. What are the main topologies used for IoT connecting devices? (08 Marks)

Module-3

- 5 a. What are the key advantages of the IP suite for the IoT? (10 Marks)
- b. What are the points to be considered while comparing the transport of DLMS/COSEM over a cellular network versus an LLN deployment? (06 Marks)
- 6 a. Explain in detail COAP message format. (08 Marks)
- b. Explain Message Queuing Telemetry Transport (MQTT). (08 Marks)

Module-4

- 7 a. What are the ways IoT data is categorized? Explain in detail. (06 Marks)
- b. Discuss the following :
 - (i) Supervised learning
 - (ii) Unsupervised learning
 - (iii) Neural Networks. (10 Marks)
- 8 a. Explain any two Big data analytics tools and technologies. (10 Marks)
- b. Explain Lambda Architecture in details. (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-5

- 9 a. What is Arduino? What are the advantages of Arduino? (06 Marks)
b. How to install arduino software for the windows PCs? (10 Marks)
- 10 a. Distinguish between Raspberry Pi and Arduino. (04 Marks)
b. Develop a python program which monitors a temperature of an engine using DS18B20 sensor and Raspberry Pi. (12 Marks)
