

CBCS SCHEME

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15CS81

Eighth Semester B.E. Degree Examination, November 2020 Internet of Things

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions irrespective of modules.

Module-1

- 1 a. Define IoT. Explain the different evolutionary phases of internet. (06 Marks)
- b. Explain the concept of Intersection Movement Assist (IMA) with graphical representation. (05 Marks)
- c. What are the different challenges of IoT? (05 Marks)
- 2 a. Explain with diagram the one M2M IoT standardized architecture. (08 Marks)
- b. Explain IoT Data Management and compute stack. (08 Marks)

Module-2

- 3 a. Define sensors and actuators. Explain how they interact with the physical world. (05 Marks)
- b. Define smart objects. Explain its characteristics. (05 Marks)
- c. Explain briefly the Wireless Sensor Networks (WSN). (06 Marks)
- 4 a. What are Constrained Devices and constrained node networks? Classify them. (06 Marks)
- b. Explain Zigbee protocol stack using IEEE 802.15.4. (10 Marks)

Module-3

- 5 a. Explain in detail the 6LOWPAN. (10 Marks)
- b. Explain the different schedule management and packet forwarding models of 6TiSCH. (06 Marks)
- 6 a. Explain the raw socket tunneling of SCADA using different scenarios. (06 Marks)
- b. What is COAP? Draw COAP Message Format. Explain its fields. (06 Marks)
- c. Compare between COAP and MQTT. (04 Marks)

Module-4

- 7 a. Explain in detail the core functions of edge analytics with necessary diagrams. (08 Marks)
- b. Explain the different components of Flexible Net flow Architecture (FNF). (08 Marks)
- 8 a. Explain the different steps and phases of OCTAVE Allegro methodology. (08 Marks)
- b. Explain Secured Network Infrastructure by using process control hierarchy model. (08 Marks)

Module-5

- 9 a. Explain the different pins/parts of Arduino Uno Board. (08 Marks)
- b. Write a program to record the current room temperature using Raspberry pi. (08 Marks)
- 10 a. Explain the different layers of IoT Smart city layered architecture. (08 Marks)
- b. Explain Smart parking architecture with advantages and disadvantages. (08 Marks)

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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.