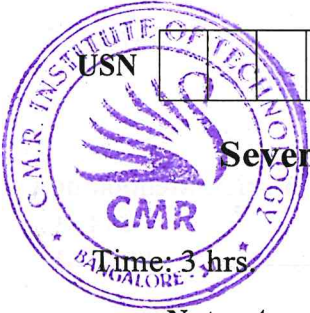


# CBCS SCHEME



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15EC752

## Seventh Semester B.E. Degree Examination, Jan./Feb. 2021 IOT and Wireless Sensor Networks

Max. Marks: 80

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

### Module-1

- 1 a. Draw the oracle reference architecture of IoT and mention its features. (08 Marks)
- b. Describe adaption layer gate way, data enrichment, data consolidation and device management functions. (08 Marks)

OR

- 2 a. Explain the modified OSI model for IoT/M2M systems. Explain COAP – SMS in brief. (08 Marks)
- b. Explain the features of XMPP with neat block diagram. (08 Marks)

### Module-2

- 3 a. Compare the features in IPV<sub>4</sub> and IPV<sub>6</sub>. (08 Marks)
- b. List the features of 6LOWPAN with neat diagram. (08 Marks)

OR

- 4 a. What are deployment models for cloud services for IoT applications? (08 Marks)
- b. Explain IoT cloud based data collection, storage and computing services using Nimbits. (08 Marks)

### Module-3

- 5 a. List the additional features in Intel Galileo device plat form over Arduino, Tabulate for comparing the usages and features of IDE's for Raspberry Pi. (08 Marks)
- b. List five levels of software which need to be developed for applications and services for IoT and M2M. Write the features of Eclipse IoT stack. (08 Marks)

OR

- 6 a. What do you mean by trust? Define message privacy list the main vulnerabilities for attack? (08 Marks)
- b. Draw layered attacker model and explain the solutions for mitigating the attacks on the layer. (08 Marks)

### Module-4

- 7 a. What are the challenges for wireless sensor networks, mention required mechanisms. (08 Marks)
- b. Explain hardware components of single node architecture of WSN with neat diagram. (08 Marks)

OR

- 8 a. Explain the transceiver structure with neat diagram and explain briefly the enabling technologies for wireless sensor networks. (08 Marks)
- b. Explain event based programming model for WSN, what is the need for gate way? Explain how WSN is connected to internet. (08 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. Explain the design considerations for physical layer and transceiver in brief. Mention how the mediation device protocol is helpful for achieving low duty cycle. (08 Marks)
- b. Explain SMACS and LEACH protocol with neat diagram. (08 Marks)

**OR**

- 10 a. What are the features to be considered for energy efficient routing explain in brief. (08 Marks)
- b. Explain geographic routing in brief. (08 Marks)

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