

# CBCS SCHEME



15EC752

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## Seventh Semester B.E. Degree Examination, Dec.2018/Jan.2019 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. Define IOT and explain an IOT reference model suggested by CISCO. (06 Marks)
- b. Write and explain four layer architectural frameworks developed at CISCO for a city. (04 Marks)
- c. Write and explain modified OSI model for the IOT/M2M systems. (06 Marks)

OR

- 2 a. Explain Data Management and Consolidation Gateway. (04 Marks)
- b. Explain Constrained Application Protocol (CoAP) for IOT/M2M (06 Marks)
- c. Explain MQTT protocol for IOT. (06 Marks)

### Module-2

- 3 a. Explain Internet protocol version 4. (06 Marks)
- b. Explain IP Addressing. (04 Marks)
- c. Explain HTTPS protocol. (06 Marks)

OR

- 4 a. Define cloud computing and write cloud platform services. (04 Marks)
- b. Explain cloud service models. (04 Marks)
- c. Explain IOT cloud based data collection, storage and computing services using Nimbits. (08 Marks)

### Module-3

- 5 a. Write and explain Traffic light control program using Arduino uno. (10 Marks)
- b. Explain in brief eclipse IOT stack. (06 Marks)

OR

- 6 a. Explain security requirements and threat Analysis. (10 Marks)
- b. Explain Layer attacker model. (06 Marks)

### Module-4

- 7 a. Explain characteristics requirement of wireless sensor Network. (08 Marks)
- b. Explain sensor node Hardware components. (08 Marks)

OR

- 8 a. Explain optimization goals and figures of merit. (08 Marks)
- b. Explain Gateway concepts. (08 Marks)

### Module-5

- 9 a. Explain the most crucial points influencing physical layer in WSN. (08 Marks)
- b. Explain important classes of MAC protocol. (08 Marks)

OR

- 10 a. Explain CSMA protocols. (08 Marks)
- b. Explain energy efficient unicast routing. (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.