

# CBCS SCHEME

15EC752

USN

ICRISTE035

## 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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