

# CBCS SCHEME

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18SCS/SCN14

## First Semester M.Tech. Degree Examination, Dec.2019/Jan.2020 Internet of Things

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. Explain IoT framework with respect to high level M<sub>2</sub>M system Architecture (HLSA). (10 Marks)  
b. Write a note on following IoT Application i) Home Automation ii) Smart metering. (10 Marks)

OR

- 2 a. What is Internet of Things? Explain the role of IPV6 in IoT? (10 Marks)  
b. Explain the characteristics of an object. Discuss classification of objects with a diagram. (10 Marks)

### Module-2

- 3 a. Write a note on along with a neat sketch  
i) Smart card ii) RFID tags. (10 Marks)  
b. Explain the RPLROLL routing protocol. (10 Marks)

OR

- 4 a. Explain the request/Response model used in COAP. And list out the advantages of COAP in IoT. (10 Marks)  
b. With a neat sketch, describe 3GPP service model and the architecture. (10 Marks)

### Module-3

- 5 a. Explain IEEE 802.15.4 acknowledgment frame format and data frame format. (10 Marks)  
b. List and explain the advantages of IPV6 over IPV4. (10 Marks)

OR

- 6 a. With a neat sketch, explain the overall network architecture of the Evolved Packet System (EPS) network elements. (10 Marks)  
b. Write a note on : i) IPV6 tunneling ii) IPSec in IPV6 (10 Marks)

### Module-4

- 7 a. With a neat sketch, explain deployment design of the weather monitoring IoT system. (10 Marks)  
b. With a neat sketch, discuss service specification for home automation in IoT system for mode and state service. (10 Marks)

OR

- 8 a. Briefly explain the IoT for agriculture. (10 Marks)  
b. Write a Python program for smart parking controller native service. (10 Marks)

### Module-5

- 9 a. Describe the steps involved in setting up a Hadoop cluster. (10 Marks)  
b. Write a note on : i) Hadoop Map Reduce ii) Hadoop YARN. (10 Marks)

OR

- 10 a. With a neat sketch, explain the components of the spark cluster. (10 Marks)  
b. Explain Oozie workflow for computing machine/error code with maximum count. (10 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.