

# CBCS SCHEME

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First Semester M.Tech. Degree Examination, Jan./Feb.2021

## Internet of Things and Applications

Time: 3 hrs.

Max. Marks: 100

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

### Module-1

- 1 a. Define Internet of Things. Justify internet of things is “Just a concept” and “An infrastructure”. (10 Marks)
- b. Explain any four applications of automotives. (10 Marks)

OR

- 2 a. Explain IOT framework with respect to high Level M2M System Architecture (HLSA). (10 Marks)
- b. Explain the role of IPV6 in IOT. (10 Marks)

### Module-2

- 3 a. Compare contactless smart card and RFID tags. (10 Marks)
- b. Discuss structural aspects of IOT. (10 Marks)

OR

- 4 a. Explain the RPL ROLL routing protocols. (10 Marks)
- b. With a neat sketch, explain 3GPP service model and architecture. (10 Marks)

### Module-3

- 5 a. List and explain IEEE 802.15.4 frames. (10 Marks)
- b. Describe the architecture of Bluetooth system with HDP and applications. (10 Marks)

OR

- 6 a. Explain the interaction between NFC interrogator and NFC device communicates. (10 Marks)
- b. With neat diagram, explain the overall network architecture of the Evolved Packet System (EPS) network elements. (10 Marks)

### Module-4

- 7 a. With neat diagram, explain home automation IOT system-mode service and state service. (10 Marks)
- b. Show how the communication occurs between various components of the web socket implementation of the weather monitoring system. (10 Marks)

OR

- 8 a. With neat diagram, explain smart parking IOT system. (10 Marks)
- b. Explain smart irrigation system with python code for controller native service. (10 Marks)

### Module-5

- 9 a. Explain the procedure to you setup Hadoop cluster. (10 Marks)
- b. Write note on : (i) Hadoop map reduce (ii) Hadoop yarn. (10 Marks)

OR

- 10 a. Explain Oozie workflow for computing machine status error codes with min count. (10 Marks)
- b. Explain Apache storm for real time data analysis. (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.