**CBCS SCHEME**

15CS81

USN | | | | | | | | | | |

# Eighth Semester B.E. Degree Examination, Feb./Mar. 2022
## Internet of Things Technology

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. Explain the evolutionary phases of the internet. (08 Marks)
   b. Explain the challenges of connected Roadways and connected factory. (08 Marks)

**OR**

2  a. Explain the main elements of M2M IoT architecture. (08 Marks)
   b. Explain the IoT reference model in detail. (08 Marks)

### Module-2

3  a. Explain the different sensor types with examples. (08 Marks)
   b. What are the advantages and disadvantages of sensor networks? Explain. (08 Marks)

**OR**

4  a. Explain the protocol stacks based on IEEE 802.15.4. (08 Marks)
   b. Explain the LORAWAN layers in detail. (08 Marks)

### Module-3

5  a. Explain the classification of IoT constrained nodes. (06 Marks)
   b. Explain the main factors applicable to IPV4 and IPV6. (06 Marks)
   c. Explain the 6TiSCH forwarding models. (04 Marks)

**OR**

6  a. Explain the categories of IoT application protocols. (08 Marks)
   b. Explain the COAP message fields in detail. (08 Marks)

### Module-4

7  a. Explain the types of data analysis results. (04 Marks)
   b. Explain the benefits of flow analytics. (06 Marks)
   c. Explain the components of FNF briefly. (06 Marks)

**OR**

8  a. Explain the challenges of IoT security. (04 Marks)
   b. Explain the different zones and levels of purdue model. (12 Marks)

### Module-5

9  a. List out the advantages of Arduino. (06 Marks)
   b. Describe the main parts of Arduino UNO learning board. (10 Marks)

**OR**

10 a. List and explain the main parts of Rasberry pi learning board. (10 Marks)
   b. Briefly describe steps of OS setup on Raspberry pi. (06 Marks)

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