

# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## September / October 2023 Supplementary Examinations

**Programme: B.E.**

**Branch: ES – Cluster Elective**

**Course Code: 19EE6CE1IT**

**Course: IoT and its applications**

**Semester: VI**

**Duration: 3 hrs.**

**Max Marks: 100**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may be suitably assumed.

### UNIT - I

- 1 a) Explain in detail on Genesis of IoT? 10
- b) Write a short note on Internet Protocol version 4 and version 6 10

### OR

- 2 a) Explain flow control statements, Data Type and Constants in Arduino programming 10
- b) Write a Python program to check if number is palindrome (one-liner) using recursion + list comprehension. Explain each step of this program with an example. 10

### UNIT - II

- 3 a) Differentiate between Classic Bluetooth and Bluetooth Low Energy. 10
- b) What is meant by Quality of service levels? How does it determine the content managed in MQTT protocol in each level? 10

### UNIT - III

- 4 a) What is a sensor node? Explain characteristics of sensors in IoT. 10
- b) What is Hydraulic Actuator. Mention its advantages, disadvantages and applications. 05
- c) Write a short note on scalar and vector sensors. 05

### UNIT - IV

- 5 a) Explain the different characteristics of IoT. 10
- b) What does IEEE 802.3? Write a short note with its frame format. 10

### OR

- 6 a) Giving the technical specifications, write a note on Arduino UNO. 10
- b) Write a Python program to swap first and last element of the list. 05
- c) How a list can be reversed, explain with a python code? 05

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

## UNIT - V

- 7    a)    Define Cloud Computing. Mention the available cloud computing services.    **10**  
        Describe any two in detail along with advantages.
- b)    Explain how IOT can be used in agriculture.    **10**

\*\*\*\*\*

SUPPLEMENTARY EXAMS 2023