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# 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**

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SUPPLEMENTARY EXAMS 2023