

U.S.N.									
--------	--	--	--	--	--	--	--	--	--

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

Autonomous Institute Affiliated to VTU

## July 2023 Semester End Main Examinations

**Programme: B.E.**

**Branch: Electrical and Electronics Engineering**

**Course Code: 19EE6CE1IT**

**Course: IoT and its Applications**

**Semester: VI**

**Duration: 3 hrs.**

**Max Marks: 100**

**Date: 19.07.2023**

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

<b>Important Note:</b> Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.			<b>UNIT - I</b>	<b>CO</b>	<b>PO</b>	<b>Marks</b>
	1	a)	Define IoT? Explain any three Security challenges in Internet of things.	CO1	PO1	04
		b)	Explain how different phases of internet created business and societal impact.	CO1	PO1	08
		c)	Explain in detail, how IoT improved Home and Building Automation	CO4	PO1	08
			<b>OR</b>			
	2	a)	Mention any four differences between IPv6 and IPv4.	CO2	PO1	04
		b)	Differentiate between TCP and UDP. (Any Eight)	CO2	PO1	08
		c)	Explain applications of IOT in agriculture.	CO4	PO1	08
			<b>UNIT - II</b>			
	3	a)	List any four differences between COAP and MQTT.	CO2	PO1	04
		b)	Explain the Network Topologies used in Zigbee with neat sketches	CO2	PO1	08
		c)	What is IEEE 802.15.4? State its advantages, disadvantages and applications	CO2	PO1	08
			<b>UNIT - III</b>			
	4	a)	With a neat diagram, explain how actuators and sensors interact with physical world.	CO2	PO1	04
		b)	Classify, explain and differentiate sensors based on its output.	CO2	PO1	08
		c)	Explain role of WSN in IoT. Why WSN is widely used for implementing IoT systems?	CO2	PO1	08

		<b>UNIT - IV</b>			
5	a)	Write a python program to print odd numbers from 1 to 50 using while loop	CO3	PO5	<b>04</b>
	b)	Is 1221221 a palindrome number?? Write a program on python to validate your answer using str().	CO3	PO5	<b>08</b>
	c)	Give a brief note on Arduino UNO along with technical specifications.	CO3	PO5	<b>08</b>
		<b>OR</b>			
6	a)	Write a python program to find out average of three numbers.	CO3	PO5	<b>04</b>
	b)	Write a program on python to check Armstrong number	CO3	PO5	<b>08</b>
	c)	Explain the terms, Structure, Functions and Variables with respect to Arduino programming	CO3	PO5	<b>08</b>
		<b>UNIT - V</b>			
7	a)	With a neat sketch, explain the architecture of Fog Computing? When to use Fog Computing?	CO2	PO1	<b>04</b>
	b)	Write a detailed note on Software and Platform cloud-based services.	CO2	PO1	<b>08</b>
	c)	Explain in detail, energy management in Smart Cities using Internet of Things	CO4	PO2	<b>08</b>

\*\*\*\*\*