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# 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>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.	<i>CO1</i>	<i>PO1</i>	<b>04</b>
	b)	Explain how different phases of internet created business and societal impact.	<i>CO1</i>	<i>PO1</i>	<b>08</b>
	c)	Explain in detail, how IoT improved Home and Building Automation	<i>CO4</i>	<i>PO1</i>	<b>08</b>
<b>OR</b>					
2	a)	Mention any four differences between IPv6 and IPv4.	<i>CO2</i>	<i>PO1</i>	<b>04</b>
	b)	Differentiate between TCP and UDP. (Any Eight)	<i>CO2</i>	<i>PO1</i>	<b>08</b>
	c)	Explain applications of IOT in agriculture.	<i>CO4</i>	<i>PO1</i>	<b>08</b>
<b>UNIT - II</b>					
3	a)	List any four differences between COAP and MQTT.	<i>CO2</i>	<i>PO1</i>	<b>04</b>
	b)	Explain the Network Topologies used in Zigbee with neat sketches	<i>CO2</i>	<i>PO1</i>	<b>08</b>
	c)	What is IEEE 802.15.4? State its advantages, disadvantages and applications	<i>CO2</i>	<i>PO1</i>	<b>08</b>
<b>UNIT - III</b>					
4	a)	With a neat diagram, explain how actuators and sensors interact with physical world.	<i>CO2</i>	<i>PO1</i>	<b>04</b>
	b)	Classify, explain and differentiate sensors based on its output.	<i>CO2</i>	<i>PO1</i>	<b>08</b>
	c)	Explain role of WSN in IoT. Why WSN is widely used for implementing IoT systems?	<i>CO2</i>	<i>PO1</i>	<b>08</b>

**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.

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

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