Roll No.												

PRESIDENCY UNIVERSITY
BENGALURU

School of Engineering

Mid - Term Examinations Nov 2024

Semester: 7 **Date**: 07/11/2024

Course Code: ECE3080 **Time**: 9:30am to 11:00am

Course Name: IOT Edge Nodes & Applications **Max Marks**: 50

Program: B. Tech **Weightage**: 25%

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. 2Mx5Q=10M

1	Define the term Industrial Internet of Things.	2Marks	L1	CO1
2	What are the Applications of IOT?	2Marks	L1	CO1
3	List out the six Vs of Big data.	2Marks	L1	CO2
4	Differentiate between accuracy and precision in relevance to sensor characteristics.	2Marks	L4	CO2
5	What is meant by Cyber Physical Systems. Give one typical example of CPS.	2Marks	L1	CO2

Part B

Answer ALL Questions. Each question carries 10 marks. 4QX10M=40M

6	**6a.**	Explain in detail the components of IOT.	6Marks	L2	CO1
	6b.	Illustrate the differences between the IoT characteristics Dynamic & Self-Adapting and Self-Configuration with typical examples each.	4Marks	L3	CO1
		Or			
7	**7a.**	Explain how various IoT application layer protocols, such as MQTT, CoAP, and HTTP, contribute to enabling communication between devices and applications.	6Marks	L2	CO1
	7b.	What are the different cloud service model. Explain briefly.	4Marks	L2	CO1

8	**8a**	With the help of a neat figure, explain the key components and layers involved in IoT architecture and how they interact with each other?	7Marks	L2	CO1
	8b.	How do REST-based APIs facilitate communication between different software systems?	3Marks	L3	CO2
		Or			
9	**9a.**	Discuss with the help of relevant figure, what are the key components of the logical design of IoT?	7Marks	L3	CO1
	9b.	Explain the concept of Wireless Sensor Networks (WSN) by defining its key characteristics and functions.	3Marks	L2	CO2
10	**10a.**	How does a smart bulb operate, and can you analyze the components involved in its functionality	5Marks	L3	CO1
	10b.	Describe the key components of the IoT reference model and explain the role of the edge model within this framework.	5Marks	L2	CO2
		Or			
11	**11a.**	Classify the different types of sensors and explain their applications.	5Marks	L2	CO2
	11b.	What are the key benefits of IOT?	5Marks	L1	CO1
12		How can companies leverage miniaturization to enhance their Industrial Internet solutions? Can you provide examples of industries where miniaturization has been successfully implemented in the Industrial Internet?	10Marks	L3	CO2
		Or			
13		How would you apply your understanding of cloud and edge computing to identify and explain their key differences in terms of performance, latency, and data processing capabilities in a real-world scenario?	10Marks	L1	CO2