PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – October 2025

Date: 28-10-2025   **Time:** 11.00am to 12.30pm

School : SOCSE	**Program:** B.Tech. Computer Science and Engineering (Data Science)
Course Code : CSD3419	**Course Name :** Edge Computing for Data Science
Semester : VII	**Max Marks** : 50 **Weightage** : 25%

CO - Levels	CO1	CO2	CO3	CO4	CO5
Marks	26	24			

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.   **5Q x 2M=10M**

1	What is the primary advantage of edge computing in reducing latency?	2 Marks	L1	CO1
2	What is the role of an edge server?	2 Marks	L1	CO1
3	Why is edge computing critical for autonomous systems?	2 Marks	L2	CO1
4	When is Accuracy a suitable evaluation metric and when is it not?	2 Marks	L2	CO2
5	What is the primary function of Matplotlib in data analysis?	2 Marks	L1	CO2

Part B

Answer the Questions.   **Total Marks 40M**

6.	a.	**Discuss the complementary relationship between edge and cloud computing.**	**10 Marks**	**L4**	**CO1**
		Or			
7.	a.	Explain the function of key components in an edge computing system.	**10 Marks**	**L2**	**CO1**

8.	a.	Explain the fundamental difference in their data processing location and discuss how they differ in terms of scope and latency.	**10 Marks**	**L2**	**CO1**
		Or			
9.	a.	Elaborate on the role of edge and fog computing in managing IoT data.	**10 Marks**	**L4**	**CO1**

10.	a.	Explain the importance of data pre-processing in a machine learning pipeline.	**10 Marks**	**L2**	**CO2**
		Or			
11.	a.	Compare and contrast Supervised and Unsupervised Learning paradigms. Provide a real-world example for each and briefly explain how a Linear Regression algorithm would be applied in that context.	**10 Marks**	**L3**	**CO2**

12.	a.	Describe the purpose and application of cross-validation in model evaluation. Explain at least two different cross-validation strategies and discuss their advantages and disadvantages.	**10 Marks**	**L2**	**CO2**
		Or			
13.	a.	Discuss the significance of model evaluation in machine learning. Explain at least three different evaluation metrics.	**10 Marks**	**L2**	**CO2**