Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations – October 2025

Date: 07-10-2025 **Time:** 09.30am to 11.00am

School: SOCSE	**Program:** CSE	
Course Code : CSE3515	**Course Name:** Cloud Data Engineering	
Semester: V	**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 utility computing?	**2 Marks**	**L1**	**CO1**
2	Define virtualization.	**2 Marks**	**L1**	**CO1**
3	State one advantage and one disadvantage of SaaS	**2 Marks**	**L2**	**CO1**
4	Differentiate between HTC and HPC	**2 Marks**	**L2**	**CO2**
5	Why is Apache Spark faster than Hadoop MapReduce	**2 Marks**	**L2**	**CO2**

Part B

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

6.	**a.**	Explain the historical developments that led to the evolution of cloud computing.	**10 Marks**	**L2**	**CO1**
		Or			
7.	**a.**	Compare Hadoop and Spark as data-intensive computing frameworks. Give suitable examples.	**10 Marks**	**L2**	**CO2**

8.	**a.**	Discuss the NIST Cloud Reference Architecture and the five actors involved.	**10 Marks**	**L2**	**CO1**
		Or			
9.	**a.**	Explain Aneka's role in distributed applications and MapReduce programming.	**10 Marks**	**L2**	**CO2**

10.	**a.**	Explain the taxonomy of virtualization techniques with suitable diagrams.	**10 Marks**	**L2**	**CO1**
		Or			
11.	**a.**	Discuss in detail the difference between High Throughput Computing (HTC) and High-Performance Computing (HPC). Provide suitable use cases.	**10 Marks**	**L2**	**CO2**

12.	**a.**	Compare Type 1 and Type 2 hypervisors. Provide real-world examples of each.	**10 Marks**	**L2**	**CO1**
		Or			
13.	**a.**	Explain MPI architecture, its communication patterns, and real-world applications	**10 Marks**	**L2**	**CO2**