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REG.NO.:

SLOT: D1+TD1

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING
CONTINUOUS ASSESSMENT TEST - II
WINTER SEMESTER 2025-2026

Programme Name & Branch	**: B.Tech - CSE**
Course Code and Course Name	**: BCSE408L - Cloud Computing**
Faculty Name(s)	**: Dr. Sudha S, Dr. Balakrishnan, Dr. Anny Leema A, Dr. Chellatamilan T, Dr. Satish C J, Dr. Kakelli Anil Kumar, Dr. Narayanan Prasanth N, Dr. Jothi K R**
Class Number(s)	**: VL2025260502042, 43, 44, 45, 47, 48, 66, 68**
Date of Examination	**: 18-03-2026**
Exam Duration	**: 90 minutes** **Maximum Marks: 50**

General instruction(s):

- Answer All Questions
- M - Max mark; CO – Course Outcome; BL – Blooms Taxonomy Level (1 – Remember, 2 – Understand, 3 – Apply, 4 – Analyse, 5 – Evaluate, 6 – Create)
- Course Outcomes:

CO2: Evaluate the various cloud services and deployment models in the infrastructure
CO3: Apply the various cloud security concepts for application development
CO4: Design and manage cloud services with cloud simulation and various cloud platforms

Q. No	Question	M	CO	BL
1.	A mid-sized software company is developing a scalable web application for real-time data analytics and user content management. They require high availability across regions, automatic scaling for variable traffic, cost-effective storage with lifecycle management for infrequently accessed data, and private connectivity to avoid public exposure. Design a GCP architecture incorporating services from compute, storage, and networking. Justify how the design ensures scalability, security, performance, cost optimization, and redundancy.	10	2	3
2.	A large hospital network processes highly sensitive medical records and patient data that are subject to strict regulatory compliance requirements in their on-premises infrastructure. The hospital wants to adopt a cloud model to gain elasticity and scalability while preserving the highest levels of security, access control, and data sovereignty. At the same time, they anticipate future needs to burst workloads to additional capacity during extreme events without losing control over core data. Evaluate and design a private cloud solution for this hospital network.	10	4	5
3.	A government agency handles confidential documents for national security purposes. Their current on-premises infrastructure is inefficient, with underutilized servers leading to high maintenance costs and slow response times during peak demands. To address this, they plan to implement a private cloud using OpenStack, ensuring isolated access, regulatory compliance, and flexibility for future hybrid integrations. Design an OpenStack-based private cloud architecture for this agency.	10	4	4
4.	A global e-commerce company aims to design a modern data center that centralizes IT operations, ensures redundancy, and supports services like backup, networking, and cloud applications while minimizing latency and downtime. Evaluate and design a data center architecture for this company.	10	3	5
5.	A software development firm operates in a hybrid cloud environment, managing repetitive tasks like resource provisioning, code deployment, security scans, and monitoring across multiple vendors. Manual processes lead to errors, delays in DevOps cycles, and inefficiencies during high-demand periods. The firm seeks to implement cloud automation to streamline operations, reduce human intervention, and integrate with orchestration for business functions. Design a cloud automation strategy for this firm.	10	3	3

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