



SCHOOL OF COMPUTER SCIENCE ENGINEERING &
INFORMATION SYSTEMS
CONTINUOUS ASSESSMENT TEST - II
FALL SEMESTER 2025-2026

SLOT: A1 + TA1

Programme Name & Branch : B.Tech IT
Course Code and Course Name : BCSE355L Cloud Architecture Design
Faculty Name(s) : Dr. Jagadeesan, Dr Jaganathan & Dr.G.Mohanraj
Class Number(s) : VL2025260105135, VL2025260105142 &
VL2025260105134
Date of Examination : 05/10/2025 & AN
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 (Type the CO statements covered in this question paper. Use the CO number as per the syllabus copy)
CO2 - Apply security and compliance measures effectively in AWS architectures using encryption, access controls, and monitoring.
CO3 - Optimize cost and performance by selecting appropriate AWS services and utilizing cost-effective resource management strategies.
CO4 - Configure and manage advanced AWS networking features, storage solutions, database technologies, and compute resources.

Q. No	Question	M	CO	BL
1.	An international e-commerce platform has noticed that its order management database experiences significant delays whenever there are sudden traffic surges from search and order lookups. At the same time, when system redundancy mechanisms are triggered during unexpected disruptions, users experience short service interruptions and incomplete transactions. The analytics team also wants access to live order activity for reporting purposes but without affecting the performance of the operational system. How would you redesign the database layer so that it continues to function smoothly under heavy read traffic, avoids downtime during disruption events, and supports real-time analytics without placing additional strain on the main system?	10	4	3
2.	A ride-hailing company uses a highly scalable data store to manage unpredictable booking traffic. However, passengers and drivers expect instant updates on trip status, analysts require near real-time insights into demand trends, and auditors demand a tamper-proof log of all booking changes. Analyze the requirements of this scenario and propose how the existing system could be extended to support notifications, analytics, and audit logging in an integrated and scalable way.	10	3	4
3.	A healthcare organization has been facing problems with unexpected configuration changes on its cloud servers, performance slowdowns in its patient management application, and difficulty keeping security patches consistent across multiple environments. Given the strict regulatory environment, the organization must ensure detailed monitoring of	10	2	3



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	performance, reliable tracking of all changes, continuous compliance with approved baselines, and automated patch management. What combination of monitoring, auditing, compliance, and automation tools would you put in place to address these issues, and how would each component contribute to operational visibility, security, and regulatory adherence?			
4.	A startup that initially relied on free cloud usage reports unexpected charges after a few months. Leadership now seeks stronger cost visibility, enforcement of spending limits, accountability across teams, and recommendations for optimization. Analyze this situation and design a cost management approach that improves transparency, prevents overspending, enforces budgets, and optimizes resource usage.	10	3	4
5.	A financial services provider is migrating sensitive customer data into the cloud. The company must meet strict data protection requirements, but confusion has arisen regarding who is responsible for which parts of security. On top of that, misconfigured access policies have created vulnerabilities. The company needs strong encryption, secure key handling, and compliance with industry regulations. How would you clarify the division of responsibilities between the cloud provider and the company, and what mechanisms would you introduce to enforce proper key management, access controls, and long-term data protection?	10	2	3