



VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act, 1956)

REG.NO.:

SCHOOL OF COMPUTER SCIENCE ENGINEERING AND INFORMATION SYSTEMS
CONTINUOUS ASSESSMENT TEST - I
FALL SEMESTER 2025-2026

SLOT: A2+TA2

Programme Name & Branch : B.Tech (IT)
Course Code and Course Name : BCSE355L - Cloud Architecture Design
Faculty Name(s) : Dr. JAGANNATHAN J, Dr. JAGADEESAN S, Dr. MOHANRAJ G
Class Number(s) : VL2025260105133, 5137, 5136
Date of Examination : 17.08.2025
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
 1. Demonstrate an in-depth understanding of AWS Cloud architecture, services, and design patterns
 4. Configure and manage advanced AWS networking features, storage solutions, database technologies, and compute resources.

Q. No	Question	M	CO	BL
1.	A startup is moving its healthcare application to AWS. The team is unsure about who handles data encryption, OS patching, and physical infrastructure security. They assume AWS will manage all aspects. Clarify their misunderstanding by explaining how the shared responsibility model works in this case. Provide examples of responsibilities handled by AWS and those that remain with the customer.	10	1	2
2.	A company has a central AWS account managed by the IT department. Development teams often request access to different services. Manually assigning permissions is time-consuming and error-prone. Propose a solution using IAM Users, Groups, and Policies to streamline access control while maintaining security and manageability.	10	1	3
3.	You are tasked with selecting an EC2 pricing model for a video rendering workload that runs for a few hours at unpredictable times. Cost-efficiency is important, but interruptions can be tolerated. Which EC2 pricing model is most appropriate for this workload? Briefly justify your choice.	10	4	2
4.	Your company is storing customer invoices in Amazon S3. Invoices are frequently accessed for the first 30 days, accessed rarely for the next 90 days, and then must be archived for legal purposes for 7 years. Analyze the access pattern and design an S3 storage strategy using suitable classes and lifecycle transitions to optimize cost. Justify your choices.	10	4	4
5.	Draw a basic VPC architecture for a 3-tier web application (Web, App, and Database layers). • Use public and private subnets appropriately • Show route tables and security group concepts Then explain how your design isolates the layers and secures the application.	10	4	3
