



VIT

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

REG.NO.:

SCHOOL OF COMPUTER SCIENCE AND ENGINEERING
CONTINUOUS ASSESSMENT TEST - II
FALL SEMESTER 2024-2025

SLOT: F2 +TF2

Programme Name & Branch : B.Tech & CSE
Course Code and Course Name : BCSE355L and AWS Solutions Architect
Date of Examination : 18.10.2024
Exam Duration : 90 minutes
Maximum Marks: 50
(Common to All batches)

Answer All Questions

Course Outcomes

CO 3: Optimize cost and performance by selecting appropriate AWS services and utilizing cost-effective resource management strategies.

CO 4: Configure and manage advanced AWS networking features, storage solutions, database technologies, and compute resources.

Q. No	Question	M	CO	BL
1.	A large e-commerce company is experiencing significant performance issues with their existing web application. They have decided to migrate their application to AWS for better improvement of scalability and reliability. As an AWS Solution Architect, design a AWS based architecture that can accommodate the company's increasing traffic by considering Selection of IP address range, Creation of subnets, Configuration of route tables and network gateways which enables you to customize the virtual data volume by ensuring security and cost-efficiency. Consider these metrics for your references such as four subnets with 251 IP address of each subnet and ensure best security practices.	10	CO4	BL 6
2.	In today's digital-first business environment with a globally distributed customer base, it becomes important to adopt an architecture that helps customers deliver digital assets to end-users with the lowest possible latency based on the geo-proximity of assets to the end user. Based on present world scenario, a global online gaming platform is experiencing slow load times for users located in regions with high latency. The company wants to improve user experience and reduce costs associated with data transfer to improve their performance and reliability. Using Amazon content delivery network service and S3 bucket, create a model for multi-Region active geo proximity applications for the company with the configuration steps.	10	CO3	BL 6
3.	A large financial institution is struggling with performance issues and scalability limitations of their on-premises database. They want to migrate their database to a managed cloud service to improve reliability, reduce maintenance costs, high durability and enable rapid scaling. Their institution			



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	requires a medium to high query or write rate – Up to 30,000 IOPS (15,000 reads + 15,000 writes) and no more than a single worker node or shared nodes. Migrate the legacy database to suitable Amazon Database Service to leverage its managed capabilities, performance optimization features, and scalability with the implementation steps and configuration of read replica.	10	CO4	BL 3
4.	A popular online multiplayer game is experiencing performance issues with its real-time leader board system. The leader board needs to handle a massive influx of updates as player’s complete matches and their scores are updated. The existing database is struggling to keep up with the high write throughput and low latency requirements. Suggest a suitable Amazon Database service and do proper data modelling as to build a highly scalable and low-latency database for the leader board system and Justify why you chosen the particular database services with its pros.	10	CO4	BL 4
5.	Identify an appropriate AWS service that is required to investigate unauthorized access that attempts to a specific AWS resource. Describe the potential use of that particular service, specify the various ways of event recording and accessing it and also explain the AWS service that identify potential cost-saving opportunities and suggests best practices for my AWS infrastructure?	10	CO3	BL 3
