Reg. No.: 22BCE1138

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VIT

Vellore Institute of Technology

Continuous Assessment Test I – September 2024

Programme	: **B.Tech (CSE)**	Semester	: **FALL 2024-2025**
	AWS Solutions Architect	Code	: **BCSE355L**
		Class Nbr(s)	: **CH2024250101143**
			CH2024250101133
Course Title	:		**CH2024250101134**
			CH2024250101146
			CH2024250101151
Faculty (s)	: **Dr. M.Priyaadharshini**	Slot	: **F2+TF2**
	Dr. Maheswari.S		
	Dr. Rajesh Kumar		
	Dr. Gayathri.R		
	Dr. Ashoka Rajan		
Time	: **90 minutes**	Max. Marks	: **50 marks**

Answer all the Questions (5 * 10 = 50)

General Instructions:

Write only your registration number on the question paper in the box provided and do not write other information.

1. : A company uses Amazon EC2 Reserved Instances to run its data processing workload. During night time, job typically takes 7 hours to run and complete within a 10-hour time window. The company anticipates temporary increases in demand at the end of each month that will cause the job to run over the time limit with the capacity of the current resources. Once started, the processing job cannot be interrupted before completion. The company wants to implement a solution that would provide increased resource capacity as cost-effectively as possible. Illustrate the various relevant AWS services that could be used in this application in AWS. 10

2. A website runs a custom web application that receives a burst of traffic each day at noon. The users upload new pictures and content daily, but have been complaining of timeouts. The architecture uses Amazon EC2 Auto Scaling groups, and the application 10

consistently takes 1 minute to initiate upon boot up before responding to user requests. How should a solutions architect redesign the architecture to better respond to changing traffic?. Illustrate the metrics and dimensions of your design for the above requirement.

3. You host a static website in an S3 bucket and there are global clients from multiple regions. You want to use an AWS service to store cache for frequently accessed content so that the latency is reduced and the data transfer rate is increased. Which will be the suitable storage class for the above requirement and justify it? Illustrate the various storage class in S3 service. 10

4 Illustrate the components required for private cloud infrastructure setup and challenges involved in managing the private cloud when compared with the public cloud for health care applications. 10

5 Consider our university LMS for managing all the course activities for the students and the faculties. The platform needs collaborative, scalable, cost effective and interactive virtual environment. But the conventional solutions are not giving optimal solutions for many users. Suggest and illustrate a suitable Cloud deployment model for the above requirements. 10