



Continuous Assessment Test (CAT) – I - AUGUST 2024

Programme	:	B.Tech (CSE and its Specialization)	Semester	:	Fall Semester 2024-25
Course Code & Course Title	:	BCSE355L - AWS Solutions Architect	Class Number	:	CH2024250100945 CH2024250100948 CH2024250100553 CH2024250101405
Faculty	:	Dr. ASHOKA RAJAN R Dr. PRAKASH P Dr. PRADEEP K Dr. OM KUMAR C U	Slot	:	B1+TB1
Duration	:	90 Minutes	Max. Mark	:	50

General Instructions:

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

Answer all questions

Q. No	Sub Sec.	Description	Marks
1		<p>Ms. Relu is a Chief Technology Officer (CTO) of a rapidly growing e-commerce company called "ShopEase". The company has been experiencing exponential growth in online sales, especially during peak seasons like Black Friday and Cyber Monday. The company currently hosts its entire IT infrastructure on-premises, including web servers, databases, and data analytics platforms.</p> <p>As the CTO of ShopEase, how would Ms. Relu leverage cloud computing to address the company's current challenges and future goals?</p>	10
2		<p>Mr XYZ is the Cloud Security Architect for a financial services company, "Secure Bank," which operates under strict regulatory compliance standards like Payment Card Industry Data Security Standard (PCI-DSS) and General Data Protection Regulation (GDPR). The company has a complex AWS environment that includes multiple accounts for different departments such as Finance, Risk Management, and Development. Each department has distinct requirements and access needs. Recently, Secure Bank experienced a security incident where a developer inadvertently gained access to sensitive customer data stored in an AWS cloud managed by the Finance department.</p> <p>How would Mr XYZ design and implement a secure IAM</p>	10

		architecture in AWS that addresses the concerns raised by the recent security incident?	
3		Consider a rapidly growing startup with unpredictable web traffic. The company is evaluating different Amazon EC2 <u>instance purchasing</u> options to optimize both cost and performance. How should the company balance the use of <u>various instances</u> to achieve an optimal mix that can handle traffic spikes while minimizing costs? What factors should be <u>taken into account</u> when making this decision, and how might these factors change as the company scales?	10
4		An organization needs to deploy EC2 instances using a base AMI, but the AMI lacks some necessary services and may not have the latest software patches. Considering this scenario, explain the various approaches for configuring the EC2 instances. Analyze the advantages and challenges of each approach, and recommend the most efficient strategy for the organization's needs.	10
5		Justify use of S3 lifecycle configuration for a financial company that has to meet regulatory compliance of Reserve Bank of India. (2 marks) 1) Use three types of S3 storage to apply the lifecycle configuration. (3 marks) 2) Briefly describe the S3 storage selected in (1) above. (3 marks) 3) Identify the transition and expiration actions applied in (2) (2 marks)	10

*****All the best *****