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Course Code	22CS/AI/CA61
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Sixth Semester B.E. Degree Examinations, May/June 2026

CLOUD COMPUTING WITH AWS

(Common to CSE, AIML, CSE- AI)

Duration: 3 hrs

Max. Marks: 100

Note: 1. Answer any FIVE full questions choosing ONE full Question from each Module.
 2. Missing data, if any, may be suitably assumed

<u>Q. No</u>	<u>Question</u>	<u>Marks</u>	<u>(RBT:CO: PI)</u>
<u>Module-1</u>			
1.	a. Illustrate the fundamental concepts of cloud computing and differentiate them from traditional data centres.	06	(2:1:1.6.1)
	b. Apply different cloud service models (IaaS, PaaS, SaaS) to solve specific business requirements and illustrate your answer with suitable examples.	08	(3:1:2.6.3)
	c. Apply AWS pricing calculator to estimate the cost of deploying a web application.	06	(3:1:2.6.3)
(OR)			
2.	a. Demonstrate how AWS cost explorer can be used to analyse spending patterns.	06	(3:1:2.6.3)
	b. Apply budgeting strategies using AWS budgets for cost control.	06	(3:1:2.6.3)
	c. Analyze a start-up web application scenario with unpredictable traffic patterns and recommend the most suitable AWS pricing model (On-Demand, Reserved, or Spot), justifying your choice with appropriate reasoning and examples.	08	(3:1:2.6.3)
<u>Module-2</u>			
3.	a. Illustrate the process of creating and managing AWS accounts.	06	(2:2:1.6.1)
	b. Illustrate the benefits and limitations of AWS free tier.	06	(2:2:1.6.1)
	c. Apply your understanding of AWS free tier to design a deployment strategy for a small healthcare clinic launching an online appointment booking system with uncertain user traffic, and evaluate the benefits and limitations of your approach in terms of cost, scalability, and service restrictions with suitable justification.	08	(3:2:2.6.3)
(OR)			
4.	a. Implement the key components of AWS global Infrastructure to design a deployment strategy for a real-world application, and justify how each component (Regions, Availability Zones, Edge Locations) supports performance, scalability, and reliability.	08	(3:2:2.6.3)
	b. Apply steps to secure an AWS account using IAM and MFA.	06	(3:2:2.6.3)

Note: (RBT - Revised Bloom's Taxonomy Level: CO - Course Outcome: PI- Performance Indicator)

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| c. | Apply security best practices for AWS accounts in securing a real-world cloud environment. | 06 | (3:2:2.6.3) |
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Module-3

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| 5. | a. | Illustrate IAM components such as users, roles, and policies. | 08 | (3:3:1.6.1) |
| | b. | Apply IAM roles to grant secure access to AWS services. | 06 | (3:3:2.6.3) |
| | c. | Analyze a scenario to implement least privilege access. | 06 | (3:3:2.6.3) |

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| 6. | a. | In a software development company where frontend developers, backend engineers, DevOps teams, and CI/CD pipelines require different access levels, apply IAM users and roles to design a secure access control strategy. | 08 | (3:3:2.6.3) |
| | b. | Demonstrate how to create and assign IAM policies. | 06 | (3:3:2.6.3) |
| | c. | Apply IAM best practices in securing cloud environments. | 06 | (3:3:2.6.3) |

Module-4

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| 7. | a. | Illustrate the working of Amazon S3 and its storage classes. | 06 | (3:4:1.6.1) |
| | b. | Implement the design of a VPC with public and private subnets. | 08 | (3:3:2.6.3) |
| | c. | Apply your understanding to explain the roles of Internet gateway and NAT gateway in a real-world networking scenario. | 06 | (3:4:1.6.1) |

(OR)

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| 8. | a. | Implement VPC components to design a secure cloud network by configuring subnets, route tables, gateways, and security controls. | 08 | (3:3:2.6.3) |
| | b. | Analyse security configurations using Security Groups and NACLs. | 06 | (3:3:2.6.3) |
| | c. | Apply your understanding of VPC architecture to explain the purpose of subnets, including how they improve network organization, security, and traffic management within a cloud environment. | 06 | (3:3:2.6.3) |

Module-5

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| 9. | a. | Apply your understanding of Amazon EC2 to explain its concept and key features in a practical cloud computing scenario. | 08 | (3:5:2.6.3) |
| | b. | Apply the correct sequence of steps to launch an instance in Amazon EC2 in a practical cloud deployment scenario. | 06 | (3:5:2.6.3) |
| | c. | Illustrate the concept of auto scaling and load balancing. | 06 | (3:5:1.6.1) |

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| 10. | a. | Apply the process of creating a database in Amazon RDS in a practical cloud deployment scenario. | 06 | (3:5:2.6.3) |
| | b. | Demonstrate how Amazon cloud watch can be used to monitor system performance in a cloud environment. | 07 | (3:5:2.6.3) |
| | c. | Apply the use of load balancers in a distributed system to ensure efficient traffic management and high availability. | 07 | (3:5:2.6.3) |

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