

Enrollment No./Seat No.:

GUJARAT TECHNOLOGICAL UNIVERSITY
M.SC INTEGRATED - SEMESTER - IX EXAMINATION - WINTER 2025

Subject Code: 1390301

Date: 13-11-2025

Subject Name: Advanced Cloud Computing

Time: 10:30 AM TO 01:00 PM

Total Marks: 70

Instructions

- 1. Attempt all questions.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Use of simple and non-programmable scientific calculators are permitted.**

	Marks
Q.1 (a) Define Cloud Computing. What are the characteristics of Cloud Computing?	03
(b) What is virtualization in cloud computing? Outline the characteristics of server virtualization and application virtualization.	04
(c) Design a case study on a SaaS and PaaS based cloud with example.	07
Q.2 (a) Enlist Security challenges in cloud computing environments.	03
(b) Explain disaster recovery in cloud computing.	04
(c) Discuss types of virtualizations and their use in cloud environments.	07
OR	
(c) What is Hypervisor? What is the need of Hypervisor in Cloud Computing? Give difference between Type-1 and Type-2 hypervisors.	07
Q.3 (a) What do you mean by Identity Management and Access control in Cloud? Explain.	03
(b) Explain the role of SOA in cloud architecture.	04
(c) Discuss the importance of multi-tenancy, scalability, and cloud-native applications in modern architectures.	07
OR	
(a) Compare the models of encryption and key management in cloud environments.	03
(b) What are cloud-native applications? Explain any one with example.	04
(c) Explain cloud infrastructure and resource management with example.	07
Q.4 (a) What is AWS S3 used for?	03
(b) Explain the difference between HDFS and GFS.	04
(c) Design configuration of AWS Simple Storage Service (AWS S3).	07
OR	
(a) Define CDN in cloud computing. List Amazon CDN Services.	03

- (b) What are the benefits of using a CDN? Explain any two. **04**
- (c) Describe various storage service types of AWS Simple Storage Service (AWS S3). **07**
- Q.5** (a) Explain with an example how AWS Lambda works. **03**
- (b) Explain the advantages of Edge computing in application deployment. **04**
- (c) Describe the key characteristics and features of Google App Engine of GCP. **07**

OR

- (a) Which cloud applications are suitable for Microsoft Azure? **03**
- (b) Explain the advantages of serverless computing in application deployment. **04**
- (c) Explain how DevOps enhances automation and continuous deployment in cloud computing. **07**
