

Dr. Babasaheb Ambedkar Open University
Term End Examination January – 2026

Course	: MSCDS	Date	: 27/02/2026
Subject Code	: MSCDS-205	Time	: 11:30am to 01:45pm
Subject Name	: Cloud Infrastructure and Services	Duration	: 02.15 Hours
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. Define Cloud Computing. Explain the essential characteristics of Cloud Computing as defined by NIST.
2. Compare and contrast the three main Cloud Service Models: Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS).
3. Discuss the various Cloud Deployment Models (Public, Private, Hybrid, and Community Cloud) and their respective advantages and disadvantages.
4. Explain the concept of Virtualization. Describe the role of a Hypervisor and differentiate between Type-1 and Type-2 hypervisors.
5. What is Cloud Security? Discuss the shared responsibility model between the cloud provider and the consumer.

Section B

Answer the following (Attempt any four) (20)

1. Explain the concept of Total Cost of Ownership (TCO) in a cloud environment.
2. Describe the differences between Direct and Indirect costs associated with cloud services.
3. What is Cloud Interoperability? Why is it a significant challenge for organizations using multiple cloud vendors?
4. Explain the working of a Content Delivery Network (CDN) and its importance in cloud service delivery.
5. Discuss the "Charge back models" used in Cloud for resource consumption.
6. Explain the role of Service Level Agreements (SLAs) in cloud infrastructure management.

Section C

Part – A (Multiple Choice Questions) (10)

1. Which model allows multiple organizations with common concerns to share a cloud infrastructure?
A. Public B. Private
C. Community D. Hybrid
2. Which of these is a first-party tool for managing cloud costs?
A. Third-party API B. Spreadsheet
C. Provider-integrated tool D. Manual list
3. Type-1 hypervisors are also known as:
A. Hosted B. Bare-metal
C. Virtual D. Software-based
4. Which service model provides the highest level of control to the user?
A. SaaS B. PaaS
C. IaaS D. DaaS

- 5 Scaling that involves adding more power (CPU, RAM) to an existing machine is called:
A. Horizontal Scaling B. Vertical Scaling
C. Auto Scaling D. Diagonal Scaling
- 6 Which of the following is a limitation of many first-party cost management tools?
A. Fast management B. High integration
C. Limited to one vendor D. Free to use
- 7 TCO stands for:
A. Total Cost of Organization B. Total Cloud Ownership
C. Total Cost of Ownership D. Technical Cloud Office
- 8 Which cloud deployment model combines on-premises infrastructure with public cloud services?
A. Public B. Community
C. Hybrid D. Private
- 9 Multi-cloud cost management is a feature primarily found in:
A. Basic tools B. Manual lists
C. Third-party tools D. Spreadsheets
- 10 The ability of a system to grow or shrink resources dynamically is known as:
A. Resilience B. Elasticity
C. Security D. Availability

Part – B (Do as Directed)

(10)

State whether the following statements are true or false

- 1 Basic cloud cost tools are usually highly integrated with the cloud platform.
- 2 In a SaaS model, the user is responsible for managing the underlying infrastructure.
- 3 Cloud computing allows for a pay-per-use billing model.
- 4 A private cloud is always located on the physical premises of the organization.
- 5 Strategic flexibility is one of the points to ponder in cloud environment summaries.
- 6 Virtualization and Cloud Computing are the same thing.
- 7 Third-party tools can answer the functional limitations of basic first-party tools.
- 8 Latency is never an issue when migrating applications to the cloud.
- 9 Charge back models help organizations attribute cloud costs to specific departments.
- 10 Billable items are irrelevant to the Total Cost of Ownership.
