

**CLOUD COMPUTING
(INFO 4182)**

Time Allotted : 3 hrs

Full Marks : 70

Figures out of the right margin indicate full marks.

*Candidates are required to answer Group A and
any 5 (five) from Group B to E, taking at least one from each group.*

Candidates are required to give answer in their own words as far as practicable.

**Group – A
(Multiple Choice Type Questions)**

1. Choose the correct alternative for the following: **10 × 1 = 10**
- (i) _____ is a cyber attack, where resource cannot be used by authorised users.
(a) Denial of service (b) Replay
(c) Cross site scripting (d) SQL injection
- (ii) Geographic distribution of data across a cloud provider's network is perceived as a major problem for many enterprises because it
(a) Adds to latency
(b) Makes data recovery harder
(c) Complicates regulatory compliances
(d) Heightens security concerns.
- (iii) Point out the correct combination of cloud service provider and its cloud-based solution.
(a) Intuit and QuickBooks Online (b) Google and AWS
(c) IBM and Azure (d) Microsoft and GWT.
- (iv) Point out the wrong statement
(a) SaaS applications come in all shapes and sizes
(b) Every computer user is familiar with SaaS systems
(c) SaaS software is not customizable
(d) None of the above.
- (v) SaaS supports multiple users and provides a shared data model through _____ model.
(a) single-tenancy (b) multi-tenancy
(c) multiple-instance (d) all of (a), (b) & (c).

- (vi) Which of the following is essential concept related to Cloud?
(a) Reliability (b) Productivity
(c) Abstraction (d) All of (a), (b) & (c).
- (vii) An identity management system where user does not require repeated authentication
(a) SSO (b) DSO
(c) LSO (d) None of (a), (b) & (c).
- (viii) Which one of these solutions is not considered as PaaS offering?
(a) Force.com (b) Amazon EC2
(c) Microsoft Azure Services (d) All of (a), (b) & (c).
- (ix) Which deployment model of cloud computing is managed by a service provider, uses an infrastructure that is off-premises, and is accessible to the general users?
(a) Community Cloud (b) Hybrid Cloud
(c) Private Cloud (d) Public Cloud.
- (x) Which of the following provide system resource access to virtual machines?
(a) VMM (b) VMC
(c) VNM (d) All of (a), (b) & (c).

Group – B

2. (a) What is Grid Computing? Explain different types of Grid computing.
(b) Differentiate between Cluster computing, Grid computing and Cloud computing.
(1 + 5) + 6 = 12
3. (a) Explain the components of Cloud Computing architecture.
(b) How utility computing differs from Distributed computing? State the pros and cons of cloud computing.
6 + (2 + 4) = 12

Group – C

4. (a) Explain different benefits of Storage Area Network.
(b) Explain different features of Amazon EC2.
(c) Discuss different purposes of Virtualization.
4 + 6 + 2 = 12
5. (a) Why should public cloud be preferred over private cloud? Explain hybrid and community cloud.

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- (b) What is Software Defined Networking (SDN)? Explain Open Flow protocol used in SDN solution.

$$(2 + 2 + 2) + (1 + 5) = 12$$

Group - D

6. (a) What are the advantages and disadvantages of PaaS?
(b) Explain Storage and Database services of Google App Engine.
(c) Explain different characteristics of web service.

$$2 + 7 + 3 = 12$$

7. (a) Explain two types of web service.
(b) Explain SOAP component of web service.
(c) Explain architecture of web-queue-worker on Microsoft Azure app services.

$$4 + 3 + 5 = 12$$

Group - E

8. (a) Discuss different types of access control mechanisms in cloud computing. What is IAM (Identity and Access management)?
(b) Explain different types of threat in cloud infrastructure. What is Life cycle management?

$$(5 + 1) + (5 + 1) = 12$$

9. (a) Explain different types of Service Level Agreement.
(b) Explain Service Transition phase of IT Infrastructure Library Life Cycle.

$$4 + 8 = 12$$