

**FUNDAMENTALS OF CLOUD COMPUTING
(INFO 4121)**

Time Allotted : 2½ hrs

Full Marks : 60

Figures out of the right margin indicate full marks.

*Candidates are required to answer Group A and
any 4 (four) from Group B to E, taking one from each group.*

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

Group – A

1. Answer any twelve:

12 × 1 = 12

Choose the correct alternative for the following

- (i) Which of the following is a Cloud Service provider?
(a) ASW (b) WAS (c) AWS (d) None of the above.
- (ii) Which Grid provides fault tolerance and high performance communication services?
(a) Data (b) Collaboration (c) Network (d) Computational.
- (iii) Which cloud is provisioned for exclusive use by a specific community of consumers that have shared concerns?
(a) Private (b) Public (c) Hybrid (d) None of above.
- (iv) Which Server virtualization technique does not use hypervisor?
(a) OS-level server virtualization (b) Full server virtualization
(c) Para server virtualization (d) All of above.
- (v) Which storage tiers of Azure can be set at account level?
(a) Hot (b) Cool (c) Both (a) and (b) (d) None of above.
- (vi) Which of the following helps Web Service to transfer message?
(a) WSDL (b) XML (c) SOAP (d) None of above.
- (vii) Which version of Web Services is Community focussed?
(a) WEB 1.0 (b) WEB 2.0 (c) Both (a) and (b) (d) None of above.
- (viii) In which attack, the attacker captures the authentication request through hacking and deliberately mimics it without modification to gain access to cloud resources.
(a) Denial of Service (b) Replay
(c) Insider (d) None of above
- (ix) Which component of SLA (Service Level Agreement) states about excluded services?
(a) Scope (b) Restriction (c) Validity (d) Exclusions.

- (x) Which authentication techniques deal with physical and behavioural features of individual?
 (a) TCG (b) PKI (c) SSO (d) Biometric.

Fill in the blanks with the correct word

- (xi) _____ computing enables virtualization of Distributed Computing.
 (xii) _____ computing follows Pay as you go business model.
 (xiii) In _____ Server virtualization, the hypervisor is heavily loaded affecting the server performance.
 (xiv) Archive storage tier of Microsoft Azure stores data for at least _____ days.
 (xv) In _____ authentication technique, user does not require repeated authentication.

Group - B

2. (a) Discuss any four limitations of Cloud computing. [[C01](Understand/LOCQ)]
 (b) Discuss any four applications of Cloud computing. [[C01](Understand/LOCQ)]
 (c) Explain any four types of Grid computing. [[C01](understand/LOCQ)]
4 + 4 + 4 = 12
3. (a) Explain three types of services provided by Cloud Broker in detail. [[C01](Understand/LOCQ)]
 (b) Differentiate between Cluster computing, Grid computing and Cloud computing. [[C01](Analyse/IOCQ)]
6 + 6 = 12

Group - C

4. (a) Explain Full Server virtualization with neat diagram. [[C04](Understand/LOCQ)]
 (b) Explain Para Server virtualization with neat diagram. [[C04](Understand/LOCQ)]
 (c) Discuss Server Virtualization with neat diagram. [[C04](Understand/LOCQ)]
4 + 4 + 4 = 12
5. (a) Explain Amazon Elastic Compute Cloud (Amazon EC2). Discuss any six features of Amazon EC2. [[C05](Understand/LOCQ)]
 (b) Compare between Software as Service (SaaS) and Infrastructure as Service (IaaS). [[C02](Understand/LOCQ)]
(2 + 6) + 4 = 12

Group - D

6. (a) Explain Google App Engine. Discuss any six services of Google App Engine. [[C05](Understand/LOCQ)]
 (b) Discuss any four features of Cloud SQL for MySQL. [[C05](Analyse/IOCQ)]
(2 + 6) + 4 = 12

7. (a) Discuss four benefits of Service Oriented Architecture (SOA). *[[C06](Understand/LOCQ)]*
 (b) Define Web Services. Discuss four features of Web Services. *[[C06](Understand/LOCQ)]*
 (c) Discuss two benefits of Web Services. *[[C06](Understand/LOCQ)]*
4 + (2 + 4) + 2 = 12

Group - E

8. (a) Define Service Level Agreement (SLA). *[[C03](Remember/LOCQ)]*
 (b) Explain any eight components of Service Level Agreement (SLA) in detail. *[[C03](Understand/LOCQ)]*
 (c) Discuss two advantages of Service Level Agreement (SLA). *[[C03](Understand/LOCQ)]*
2 + 8 + 2 = 12
9. (a) Compare between Insider attack and Denial of Service attack. *[[C03](Analyse/IOCQ)]*
 (b) Explain Life Cycle management and IAM (Identity & Access management system). *[[C03](Understand/LOCQ)]*
 (c) Explain Task based access control mechanism. *[[C03](Understand/LOCQ)]*
4 + 4 + 4 = 12

Cognition Level	LOCQ	IOCQ	HOCQ
Percentage distribution	85.42	14.58	0

