

**Professional Course Examination (Odd), 2023**

( 5th Semester )

**BACHELOR OF COMPUTER APPLICATIONS**

Course No. : BCA/5/EC/28 (a)

**( Cloud Computing )**

*Full Marks : 75*

*Time : 3 hours*

*The figures in the margin indicate full marks for the questions*

**( PART : A—OBJECTIVE )**

( Marks : 25 )

SECTION—I

( Marks : 15 )

I. Tick (✓) the correct answer in the brackets provided : 1×10=10

1. The primary business drivers that exposed the need for cloud computing include

(a) capacity planning ( )

(b) cost reduction ( )

(c) organization agility ( )

(d) All of the above ( )

2. A primary technology innovation that influenced and inspired key distinguishing features and aspects does not include
- (a) grid computing ( )
  - (b) parallel computing ( )
  - (c) virtualization ( )
  - (d) clustering ( )
3. A \_\_\_\_ is the person or organization responsible for administering a cloud-based IT resource (including cloud services).
- (a) cloud provider ( )
  - (b) cloud consumer ( )
  - (c) cloud service owner ( )
  - (d) cloud resource administrator ( )
4. The \_\_\_\_ delivery model represents a self-contained IT environment comprised of infrastructure-centric IT resources that can be accessed and managed via cloud service-based interfaces and tools.
- (a) IaaS ( )
  - (b) PaaS ( )
  - (c) SaaS ( )
  - (d) VaaS ( )
5. A \_\_\_\_ is a device that is connected to multiple networks through which it forwards packets.
- (a) router ( )
  - (b) switch ( )
  - (c) hub ( )
  - (d) modem ( )
6. \_\_\_\_ is the amount of time it takes a packet to travel from one data node to another.
- (a) Speed ( )
  - (b) Latency ( )
  - (c) Seek time ( )
  - (d) Turnaround time ( )

7. \_\_\_\_\_ is the characteristic of not having been altered by an unauthorized party.
- (a) Policy ( )                      (b) Confidentiality ( )
- (c) Authenticity ( )                (d) Integrity ( )
8. \_\_\_\_\_ are associated with measuring and assessing insecurity, or the lack of security.
- (a) Threats ( )
- (b) Vulnerabilities ( )
- (c) Risks ( )
- (d) All of the above ( )
9. The primary concern related to cloud storage is the
- (a) security ( )
- (b) integrity ( )
- (c) confidentiality ( )
- (d) All of the above ( )
10. According to different storage levels, there are three kinds of interfaces implemented. Which of the following is **not** one of them?
- (a) Network storage interfaces ( )
- (b) Cloud storage interfaces ( )
- (c) Database storage interfaces ( )
- (d) Object storage interfaces ( )

**II.** State whether the following statements are *True (T)* or *False (F)* by putting a Tick (✓) mark in the brackets provided : 1×5=5

1. Vertical scaling is scaling out and scaling in. ( T / F )
  
2. The PaaS delivery model is typically used to make a reusable cloud service widely available to a range of cloud computers. ( T / F )
  
3. Cloud consumers and cloud providers typically use the Internet to communicate, which is based on a decentralized provisioning and management model and is not controlled by any centralized entities. ( T / F )
  
4. It is important for cloud provider, subsequent to gaining an understanding of the potential security-related issues specific to a given cloud environment, to perform a corresponding assessment of the identified risk. ( T / F )
  
5. The ready-made environment mechanism is a defining component of PaaS cloud delivery model that represents a pre-defined. ( T / F )

SECTION—II

( Marks : 10 )

**III.** Answer the following questions : 2×5=10

1. (a) What is clustering?

**OR**

- (b) What is IT resource?

2. (a) Who is cloud resource administrator?

**OR**

(b) What is trust boundary?

3. (a) Mention two differences between On-Premise IT Resources and Cloud-based IT Resources.

**OR**

(b) What are SAN and NAS?

4. (a) What is the objective of DOS attack?

**OR**

(b) What is traffic eavesdropping?

5. (a) What is container?

**OR**

(b) What are the four logical units of cloud storage level?

**( PART : B—DESCRIPTIVE )**

( Marks : 50 )

**IV.** Answer the following questions :

10×5=50

1. (a) What is scaling? Differentiate between horizontal scaling and vertical scaling.

2+3=5

(b) What is capacity planning? What are the different capacity plannings existing?

2+3=5

**OR**

Elaborate the goals and benefits of cloud computing.

10

2. (a) What is cloud computing? What are the different characteristics of cloud computing? 4+6=10

**OR**

- (b) Explain community and public deployment models of cloud computing with suitable diagram. 10

3. (a) What is connectionless packet switching? 4

- (b) Explain generic view of the Internet reference model and protocol stack. 6

**OR**

- Explain operating system-based and hardware-based virtualization with suitable diagram. 10

4. (a) What is treat agent? Explain the following terms : 2+(2×4)=10

(i) Anonymous attacker

(ii) Malicious service agent

(iii) Trusted attacker

(iv) Malicious insider

**OR**

- (b) What is risk management? Define risk assessment, risk treatment and risk control in security of cloud computing. 4+2+2+2=10

5. (a) Explain Logical Network Perimeter and Virtual Server with details.

5+5=10

**OR**

(b) What is cloud storage device mechanism? Explain different cloud service customers that utilise different technologies to interface with virtualised cloud storage devices.

10

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