

B

1000CST423122208

Pages: 2

Reg No.: \_\_\_\_\_

Name: \_\_\_\_\_

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY  
B.Tech Degree 7th semester (S,FE) Exam April 2025 (2019 Scheme)



Course Code: CST423  
Course Name: CLOUD COMPUTING

Max. Marks: 100

Duration: 3 Hours

**PART A**

*Answer all questions, each carries 3 marks.*

- |    |   | Marks |
|----|---|-------|
| 1  | What are the limitations of traditional computing?                                  | (3)   |
| 2  | Compare horizontal scaling and vertical scaling in cloud computing.                 | (3)   |
| 3  | Which type of virtualization is used in Xen Architecture? Explain Xen architecture. | (3)   |
| 4  | Explain the concept of network level virtualization.                                | (3)   |
| 5  | Differentiate between on-premise and cloud-based internetworking.                   | (3)   |
| 6  | Explain the key features of Eucalyptus.   | (3)   |
| 7  | Distinguish between hypervisor-based threats and VM-based threats.                  | (3)   |
| 8  | Discuss the security risks posed by shared images with suitable examples.           | (3)   |
| 9  | What is Amazon Machine Images (AMI) of Amazon web services?                         | (3)   |
| 10 | Explain the Blobs (binary large objects) storage service of Microsoft Azure.        | (3)   |

**PART B**

*Answer any one full question from each module, each carries 14 marks.*

**Module I**

- |    |   |      |
|----|---|------|
| 11 | a) Explain the characteristics, benefits and challenges of cloud computing. | (10) |
|    | b) What are the main characteristics of a Platform-as-a-Service solution?   | (4)  |

**-OR;;**

- |    |  |      |
|----|--|------|
| 12 | a) Discuss the NIST cloud computing reference model with a neat diagram.                     | (10) |
|    | b) Explain the concept of organizational boundaries and trust boundaries in cloud computing. | (4)  |

**Module II**

- |    |   |     |
|----|---|-----|
| 13 | a) What is hypervisor? Discuss the various types of hypervisors used in machine virtualization. | (9) |
|    | b) Differentiate between non-virtualized and virtualized machine environments                   | (5) |

**OR**

- 14 a) Define virtualization. List and explain its advantages and disadvantages. (10)  
b) Explain various implementation levels of Virtualization (4)

**Module III**

- 15 a) Explain the broadband networks and internet architecture. (10)  
b) Differentiate between multitenancy and virtualization. (4)

**OR**

- 16 a) Explain HDFS. Explain the running of a job in Hadoop with a diagram (8)  
b) What is Pig Latin ? What are the major Pig Latin data types? (6)

**Module IV**

- 17 a) Explain how security policies and security mechanisms are used to counter threats, vulnerabilities, and risks caused by threat agents with a diagram. (9)  
b) Discuss OS level security can be achieved in cloud. (5)

**OR**

- 18 a) Explain the different categories of infrastructure security in cloud computing. (8)  
b) What is access control? Differentiate between mandatory access control (MAC) and Role Based Access Control (RBAC) (6)

**Module V**

- 19 a) "Storage services in the cloud are offered in two different forms as IaaS and as SaaS". Explain (8)  
b) Differentiate between Amazon SimpleDB and Amazon RDS. (6)

**OR**

- 20 a) With a neat diagram, write about Google App Engine for PaaS applications. (9)  
b) Discuss the compute services offered by Microsoft Azure. (5)

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