

Reg No.: _____

Name: _____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

B.Tech Degree S7 (R,S) (FT) (S5 PT) Examination November 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 | State the difference between a traditional computer and a Virtual machine? | (3) |
| 2 | How is Cluster Computing differ from Grid computing? | (3) |
| 3 | List and discuss the main types of Virtual Machines? | (3) |
| 4 | State the difference between Type1 hypervisor and Type2 hypervisor. | (3) |
| 5 | What is dynamic resource provisioning in cloud computing? Explain. | (3) |
| 6 | Explain HDFS and its key characteristics | (3) |
| 7 | Write a short note on Open Nebula. | (3) |
| 8 | Differentiate between MAC and DAC | (3) |
| 9 | List the data base services offered by Google cloud. | (3) |
| 10 | What are the 3 main storage types in AWS? Explain. | (3) |

PART B*Answer any one full question from each module, each carries 14 marks.***Module I**

- | | | |
|----|---|-----|
| 11 | a) With the help of a diagram, explain NIST Cloud Computing Reference Architecture. | (8) |
| | b) Briefly explain the different types of cloud deployment models | (6) |

OR

- | | | |
|----|--|-----|
| 12 | a) Compare and Contrast Grid Computing, Distributed Computing, and Cloud Computing | (6) |
| | b) Define cloud services. Explain the three main cloud service models – IaaS, PaaS, and SaaS – with one example each | (8) |

Module II

- | | | |
|----|---|-----|
| 13 | a) Explain storage virtualization with a neat sketch | (8) |
| | b) Briefly explain emulation, interpretation, and binary translation. | (6) |

OR

- 14 a) Represent a model of Operating system level virtualization approach. Also (7)
examine the advantages and limitations.
- b) Explain the pros and cons of virtualization. Differentiate Full Virtualization and (7)
Para-Virtualization.

Module III

- 15 a) Illustrate the MapReduce algorithm with a diagram and explain how it can be (8)
used to count the occurrences of each word in a file
- b) Explain the role of Broadband Networks / Internet and Web Technology in (6)
enabling cloud computing.

OR

- 16 a) Explain the technologies used in data centres highlighting their role in supporting (6)
cloud services.
- b) Differentiate between the static approach and dynamic approach of resource (8)
provisioning in Virtual Machines.

Module IV

- 17 a) Illustrate the role of a threat agent and the risks caused by threat agents. (7)
- b) Explain the key functions and benefits of Identity and Access Management in (7)
Cloud Computing

OR

- 18 a) Explain in detail about security threat posed by shared images. (7)
- b) Discuss how virtual machine security can be achieved in cloud. (7)

Module V

- 19 a) Explain Amazon Web Services offerings. (7)
- b) Explain the four services offered by Azure storage. (7)

OR

- 20 a) Explain Microsoft Azure Cloud Computing Platform Architecture with neat (7)
diagram.
- b) Describe the core components of Google App Engine. (7)
