

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM
IV B. Tech I Semester Advanced Supplementary Examinations March 2025

CLOUD COMPUTING

(Computer Science & Engineering and Information Technology)

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions **ONE** Question from Each unit

All Questions Carry Equal Marks

UNIT-I

1. a) List and explain the benefits of scalable computing over the internet [7M]
b) How does network monitoring and management contribute to the efficiency of network-based systems? [7M]

(OR)

2. a) What are the characteristics and advantages of peer-to-peer (P2P) system model? Explain [7M]
b) Compare and contrast between centralized, decentralized and distributed system models. [7M]

UNIT-II

3. a) How does full virtualization differ from para-virtualization in terms of cloud implementation? [7M]
b) Discuss the different types of virtualization structures commonly used in cloud computing. [7M]

(OR)

4. a) Describe in detail about the concept of virtualization for data-centre automation. [7M]
b) List down the benefits and drawbacks of hardware-assisted virtualization in cloud environments [7M]

UNIT-III

5. a) How does Platform as a Service (PaaS) enable developers to build and deploy applications in the cloud? [7M]
b) What are the security measures and compliance certifications offered by public cloud platforms to safeguard data? [7M]

(OR)

6. a) Are there any specific SDKs or development tools recommended for programming on Amazon AWS and Microsoft Azure? Give explanation. [7M]
b) Explain Service-Oriented Architecture (SOA) and how does it differ from traditional software architectures? [7M]

UNIT-IV

7. a) Explain some common mechanisms for monitoring and managing resource utilization in a cloud environment. [7M]
b) Explain the key challenges in maintaining stability in two-level resource allocation architecture. [7M]

(OR)

8. a) State and explain the benefits of applying control theory to task scheduling in terms of scalability, reliability and responsiveness. [7M]
b) With the help of an example explain the fair queue scheduling algorithm in cloud computing. [7M]

UNIT-V

9. a) What are the key features and benefits of using block storage in cloud storage models? Explain. [7M]
b) Compare and contrast different distributed file systems commonly used in the cloud, such as Hadoop Distributed File System (HDFS) and Google File System (GFS)? [7M]

(OR)

10. a) List the cloud services provided by google and explain them in brief. [7M]
b) What are the challenges and considerations for data consistency in distributed file systems in the cloud? Explain [7M]
