

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY GURAJADA VIZIANAGARAM**  
**IV B. Tech I Semester Regular/Supplementary Examinations OCT/NOV 2025**  
**CLOUD COMPUTING**

(CSE&IT)

Time: 3 hours

Max. Marks: 70

Answer any **FIVE** Questions. **ONE** Question from **Each unit**  
All Questions Carry Equal Marks

\*\*\*\*\*

**UNIT-I**

1. a) Explain the concept of scalable computing over the Internet and its advantages in modern computing. [7M]  
b) Discuss the various technologies used for network-based systems with suitable examples. [7M]

(OR)

2. a) Describe the evolution of Internet computing and the factors that enabled scalable computing. [7M]  
b) Explain the concept of clustering and how it improves scalability and performance. [7M]

**UNIT-II**

3. a) Illustrate the architecture of a virtualized data center with labeled components. [7M]  
b) Explain the benefits and challenges of virtualization in cloud computing. [7M]

(OR)

4. a) Discuss the significance of resource management in virtualized environments. [7M]  
b) Explain different implementation levels of virtualization with examples. [7M]

**UNIT-III**

5. a) Compare public, private, and hybrid cloud platforms with suitable examples. [7M]  
b) Explain the architectural layers of cloud platforms and their functionalities. [7M]

(OR)

6. a) Describe the architecture and key components of a public cloud platform. [7M]  
b) Explain the challenges in designing scalable and secure cloud platform architectures. [7M]

**UNIT-IV**

7. a) Describe the stability of a two-level resource allocation architecture with a suitable diagram. [7M]  
b) Explain feedback control mechanisms based on dynamic thresholds in resource scheduling. [7M]

(OR)

8. a) Illustrate how dynamic resource management improves cloud performance and efficiency. [7M]  
b) Explain the concept of resource bundling and its advantages in cloud resource allocation. [7M]

**UNIT-V**

9. a) Discuss the working of distributed file systems and their advantages. [7M]  
b) Explain the design principles and architecture of general parallel file systems. [7M]

(OR)

10. a) Compare distributed file systems and parallel file systems with examples. [7M]  
b) Evaluate the challenges of managing large-scale cloud storage infrastructures. [7M]

\*\*\*\*\*