

BT-8/M-24

48245

CLOUD COMPUTING

Paper-PE-CS-A402A

Time Allowed : 3 Hours]

[Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT-I

1. How does Cloud computing differ from Cluster computing and Grid computing in terms of Architecture, Resource Management, scalability, and fault tolerance? 15
2. (a) How does the NIST model define Cloud computing, and what are its essential characteristics ? 8
(b) What are the key principles of distributed computing, and how do they enable Collaborative Processing across multiple interconnected nodes? 7

UNIT-II

3. (a) What is the cloud computing stack, and how does it differ from Traditional Client/Server Architecture? 8

- (b) How does cloud computing work, from the perspective of both service providers and consumers, in terms of virtualization, resource allocation, and service delivery? 7
4. (a) Which Protocols are commonly used in Cloud Computing Environments to ensure secure and efficient communication between different components of the Cloud infrastructure? 8
- (b) What are the defining characteristics and key features of Infrastructure as a Service (IaaS), and how does it differ from other service models such as Platform as a Service (PaaS) and Software as a Service (SaaS)? 7

UNIT-III

5. (a) What are the Economic benefits of scaling in Cloud computing, and how does the pay-as-you-go model enable organizations to optimize costs while maximizing resource utilization? 8
- (b) What are the different types of databases and data stores available in Cloud Computing Environment? 7
6. (a) What features and services does Microsoft Azure offer to Businesses and Developers? 7
- (b) What role do Service Level Agreements (SLAs) play in Cloud computing, and how do they differ from Traditional Service Agreements? 8

UNIT-IV

7. How does network-level security play a critical role in protecting Data transmission and Communication within cloud environments, and what Technologies and Protocols are commonly employed to Mitigate Network-based threats? 15
8. (a) What is the role of identity and Access Management (IAM) in Cloud computing? 7
- (b) What is DROPS (Division and Replication of Data in Cloud for Optimal Performance and Security), and how does it enhance both performance and security in Cloud Computing Environments? 8

