

**D6BMC2202**

**Reg. No.....**

**Name: .....**

**SIXTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2025  
COMPUTER SCIENCE AND MATHEMATICS (DOUBLE MAIN)  
GDSCS6B11T: CLOUD COMPUTING**

**Time: 2 Hours**

**Maximum: 60 Marks**

**SECTION A: Answer the following questions. Each carries *two* marks.  
(Ceiling 20 marks)**

1. Describe the evolution of cloud computing.
2. What is public cloud?
3. How does elasticity differ from scalability in Cloud Computing?
4. Explain the concept of "virtual machines" in server virtualization.
5. What is CPU virtualization?
6. Define SaaS.
7. What is the NIST Cloud Computing Reference Architecture?
8. Discuss one advantage and one disadvantage of using a public cloud.
9. Define identity and access management.
10. What is MapReduce?
11. Explain the role of HDFS (Hadoop Distributed File System) in Apache Hadoop.
12. What are the Four Levels of Federation?

**SECTION B: Answer the following questions. Each carries *five* marks.  
(Ceiling 30 marks)**

13. How does MapReduce in Hadoop facilitate large-scale data processing?
14. How does SOA improve system scalability and flexibility? Provide real-world examples to support your explanation.
15. Write notes on Linux KVM, Xen and LXC.
16. Define Cloud Computing. Enumerate its main features.
17. Describe virtualization and its benefits.
18. Discuss the various layers in a typical cloud architecture.
19. Describe cloud security and its importance.

**SECTION C: Answer any *one* question. The question carries *ten* marks.**

20. Discuss the characteristics of Cloud Computing, such as scalability, elasticity, resource pooling, and measured service. How do these characteristics benefit businesses?
21. Define Storage-as-a-Service (STaaS) and explain how it enables businesses to store and manage data in the cloud.

**(1 x 10 = 10 Marks)**