CBCS SCHEME

USN | | | | | | | | | | |

BCS601

Sixth Semester B.E./B.Tech. Degree Examination, Dec.2025/Jan.2026
Cloud Computing

Time: 3 hrs. Max. Marks: 100

Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.
2. M : Marks , L: Bloom's level , C: Course outcomes.

		Module – 1	M	L	C
Q.1	a.	Define Distributed Systems. Explain any three system models used in distributed and cloud computing with examples.	10	L2	CO1
	b.	What is Scalable Computing? Explain how cloud computing enables scalable computing over the Internet.	10	L2	CO1
		OR			
Q.2	a.	Compare and contrast cluster computing grid computing and cloud computing in terms of Architecture and Usage.	10	L3	CO1
	b.	Analyze the challenges in distributed systems related to performance, security and energy efficiency.	10	L3	CO1
		Module – 2			
Q.3	a.	Define Virtualization. Explain the different implementation levels of virtualization with examples.	10	L2	CO2
	b.	Define Virtual Clusters. Explain how virtual clusters are built and used in Distributed Systems.	10	L2	CO2
		OR			
Q.4	a.	Explain with examples how Resource Management is handled in Virtual Clusters.	10	L3	CO2
	b.	How does virtualization support data center automation and dynamic resource management?	10	L3	CO2
		Module – 3			
Q.5	a.	Define Cloud Computing. Explain the different service models (IaaS, PaaS, SaaS) with examples.	10	L2	CO3
	b.	Explain the basic components and design considerations of a modern data center.	10	L2	CO3
		OR			
Q.6	a.	Describe the Architecture design of compute clouds with the help of a diagram.	10	L2	CO3
	b.	Compare the public cloud platforms: Google App Engine (GAE), Amazon Web Services (AWS) and Microsoft Azure.	10	L3	CO3

Module – 4					
Q.7	**a.**	Define Cloud Security. What are the top 5 security concerns faced by cloud users?	**10**	**L1**	**CO4**
	b.	What is a Privacy Impact Assessment (PIA)? List its key components and purpose in a cloud environment.	**10**	**L1**	**CO4**
OR					
Q.8	**a.**	Analyze the security risks posed by shared virtual machine images and management operating systems in public cloud environments.	**10**	**L4**	**CO4**
	b.	Explain how XOAR architecture and trusted hypervisors enhance cloud security analyze their impact on virtualized data center environments.	**10**	**L4**	**CO4**
Module – 5					
Q.9	**a.**	Apply the concept of MapReduce by writing a simple program to count the number of occurrences of each word in a text file.	**10**	**L3**	**CO5**
	b.	Develop a simple Python or Java application for Google App Engine to serve dynamic content using a basic web handler.	**10**	**L3**	**CO5**
OR					
Q.10	**a.**	Analyze the differences between Parallel Computing Paradigms (MPI/openMP) and Cloud Programming Paradigms (MapReduce, GAE) in terms of scalability and fault tolerance.	**10**	**L4**	**CO5**
	b.	Examine how emerging cloud software environments like Microsoft Azure integrate PaaS, IaaS and SaaS. Analyze the flexibility offered to developers.	**10**	**L4**	**CO5**

* * * * *