Subject Name: Cloud Computing & Security **Subject Code: BIS613D**
SEM :6 **Faculty : B.Vidhya Banu**

Question Bank

Module 1: Distributed System Models and Enabling Technologies

Sl.No.	Questions	CO	Level	Marks
1.	How has computing technology evolved over the past 60 years?	CO1	L	
2.	What are the key differences between High-Performance Computing (HPC) and High-Throughput Computing (HTC)?	CO1	L	
3.	What are the three new computing paradigms introduced in modern distributed systems?	CO1	L	
4.	How does Service-Oriented Architecture (SOA) contribute to the evolution of distributed computing?	CO1	L	
5.	What role does the Internet of Things (IoT) play in modern computing trends?	CO1	L	
6.	How do multicore CPUs and multithreading technologies enhance computing performance?	CO1	L	
7.	What are the differences between CPU-based computing and GPU-based computing in distributed systems?	CO1	L	
8.	What is virtualization, and how does it support cloud computing infrastructure?	CO1	L	
9.	What are the challenges in achieving scalability in cloud-based infrastructures?	CO1	L	
10.	What is virtualization, and how does it support cloud computing infrastructure?	CO1	L	
11.	What are the key differences between centralized, parallel, distributed, and cloud computing?	CO1	L	
12.	What are the benefits of a single-system image (SSI) in clustered computing environments?	CO1	L	
13.	What are the major design challenges in building distributed and cloud computing infrastructures?	CO1	L	
14.	How does grid computing differ from cloud computing in terms of resource management and scalability?	CO1	L	
15.	What are the main performance metrics used in distributed computing?	CO1	L	
16.	How do security concerns impact distributed and cloud computing environments?	CO1	L	
17.	What strategies can improve energy efficiency in high-performance and high-throughput computing?	CO1	L	
18.	What is virtualization, and how does it support cloud computing infrastructure?	CO1	L	

19.	What are the key differences between centralized, parallel, distributed, and cloud computing?	**CO1**	**L**	
20.	What are the benefits of a single-system image (SSI) in clustered computing environments?	**CO1**	**L**	

Module-2 Virtual Machines and Virtualization of Clusters and Data Centers

Sl.No.	Question	CO	Level	Marks
1.	What is virtualization, and how does it enhance resource sharing and system efficiency?	CO2	L2	
2.	What are the different levels of virtualization implementation?	CO2	L2	
3.	How does the virtualization layer (hypervisor or VMM) function in a system?	CO2	L2	
4.	What are the main differences between full virtualization, para-virtualization, and OS-level virtualization?	CO2	L2	
5.	What are the main differences between full virtualization, para-virtualization, and OS-level virtualization?	CO2	L2	
6.	What are the relative merits of different virtualization approaches?	CO2	L2	
7.	What are the three major classes of VM architecture?	CO2	L2	
8.	How does the hypervisor manage hardware resources in a virtualized environment?	CO2	L2	
9.	How does binary translation enable full virtualization?	CO2	L2	
10.	What are the key differences between binary translation and para-virtualization?	CO2	L2	
11.	What is hardware-assisted virtualization, and how does it improve VM performance?	CO2	L2	
12.	How does Intel VT-x support CPU virtualization?	CO2	L2	
13.	What is the role of shadow page tables in memory virtualization?	CO2	L2	
14.	How does I/O virtualization work, and what are its key challenges?	CO2	L2	
15.	Compare different I/O virtualization methods: full device emulation, para- virtualization, and direct I/O.	CO2	L2	

16.	What are the key differences between physical clusters and virtual clusters?	CO2	L2	
17.	What are the benefits of virtual clusters in cloud computing?	CO2	L2	
18.	What are the challenges in resource management for virtualized environments?	CO2	L2	
19.	How does Amazon EC2 implement virtual clusters for cloud computing?	CO2	L2	
20.	How does Intel VT-x support CPU virtualization?	CO2	L2	**10**
21.	What is hardware-assisted virtualization, and how does it improve VM performance?	CO2	L2	**8**