

SNS COLLEGE OF TECHNOLOGY





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UNIT II & III Question Bank

19CSE310 – GRID AND CLOUD COMPUTING

List out some of the Cloud Components

1. Front-End Platform

Back-End Platform

Cloud Delivery Models

Cloud Deployment Models

2. What are the different levels of virtualization?

Instruction Set Architecture (ISA) Level Hardware Abstraction Level Operating System Level Library Support Level Application Level

3. Why is resource management important in virtual clusters?

It ensures fair resource allocation, load balancing, and optimal performance.

4. What tools are used for managing virtual clusters?

Kubernetes, OpenStack, VMware vSphere

5. How does virtualization help in data center automation?

It enables dynamic resource allocation, workload balancing, and automated provisioning.

6. What are the benefits of virtualization in data centers?

Reduced costs, improved efficiency, and better resource utilization.

- 7. Distinguish Cloud Providers with Traditional IT Service Providers in terms of Cost Structure: Traditional IT requires significant upfront investments in hardware and software, along with ongoing maintenance costs. In contrast, cloud providers offer scalable solutions with pay-as-you-go models, reducing capital expenditures. Scalability: Cloud services allow for rapid scaling of resources to meet demand, whereas traditional IT infrastructures may require substantial time and investment to upgrade.
- What is I/O device virtualization? It allows multiple virtual machines to share physical I/O devices using techniques like passthrough and emulation.
- 9. How is CPU virtualization achieved?

By using hypervisors to create and manage virtual CPUs for guest operating systems.

10. What are the types of CPU virtualization?

Full Virtualization Para-virtualization

- 11. OS-level virtualization provides a feasible solution for these hardwarelevel virtualization issues .Justify OS-level virtualization allows multiple isolated user-space instances (containers) to share a single host OS kernel, significantly reducing overhead and improving resource utilization.
- 12. Reason for Data centre

More devices
More cloud
More workloads

A lot more data

13. What are the main components of a virtualization structure?

Host Machine Virtual Machine Monitor (VMM) Guest Operating System Virtual Machines

14. What is memory virtualization?

It is a technique that abstracts physical memory into virtual memory for efficient management and resource allocation.

15.

What is Measured Service in cloud computing?

- Cloud resources are monitored, controlled, and billed based on usage, ensuring transparency and cost efficiency.
- 16. Draw the Architecture of a computer system before and after virtualization



17. How do cloud providers differ from traditional IT service providers?

Cloud providers offer on-demand, scalable, and pay-as-you-go services, while traditional IT providers require upfront investment and fixed infrastructure. 18. What does Location Independent Resource Pooling mean?

Cloud providers use multi-tenant models where resources like storage and computing power are dynamically assigned to users based on demand.

19. \Box What are the roots of cloud computing?

Cloud computing evolved from technologies like virtualization, grid computing, utility computing, and distributed computing.

20. Which company pioneered cloud computing as a commercial service?

Amazon Web Services (AWS) popularized cloud computing with its Elastic Compute Cloud (EC2) in 2006.