



RNS INSTITUTE OF TECHNOLOGY

Autonomous Institution Affiliated to VTU

Assignment 2: CLOUD COMPUTING

University Question Bank

A compilation of important questions for review

Question 1:

4 Explain different types of Cloud Deployment Models.?

Answer: Explain different types of Cloud Deployment Models. There are four main cloud deployment models: Public Cloud: Services are provided by a third-party provider, accessible over the public internet, and shared by multiple users. Examples: AWS, Azure, Google Cloud Platform. Private Cloud: Infrastructure is dedicated to a single organization, hosted either on-premises or off-premises, and managed internally or by a third-party. Hybrid Cloud: A combination of public and private cloud, allowing organizations to leverage the best of both models. Community Cloud: Shared infrastructure among several organizations with common goals, often managed by a third-party

Question 2:

1 Explain different Types of Hardware Virtualization Techniques.?

Answer: Explain different Types of Hardware Virtualization Techniques. Hardware virtualization techniques involve creating virtual machines (VMs) that run on a physical host machine: Full Virtualization: Emulates the entire hardware architecture of the host machine, allowing any



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operating system to run on top of it. Paravirtualization: Requires minor OS modifications for better performance, offering a lightweight virtualization approach. Hardware Assisted Virtualization (HAV): Leverages specialized hardware instructions for faster virtualization, improving performance

Question 3:

7 Explain Service Oriented Computing 1?

Answer: Explain Service Oriented Computing (SOC). Service-oriented computing (SOC) is an architectural style that leverages loosely coupled, self-contained services for distributed systems. Key principles: Service-based: Components are independent services that offer specific functionality. Loose Coupling: Services communicate via standardized interfaces, allowing flexibility and interoperability. Discoverability: Services can be automatically discovered and invoked. Reusability: Services can be reused across different applications and systems. 1, 3. Explain Machine Reference Model of Virtualizing an Execution Environment. The machine reference model virtualizes an execution environment by creating a virtual machine (VM) that acts as a "machine" within the host machine. Virtualization Layer: This layer sits between the hardware and the virtual machine, managing resources and providing a virtualized view of the hardware. Virtual Machine: The VM runs a guest operating system and applications, isolated from other VMs and the host machine. Host Machine: The physical server or hardware that hosts the VMs and manages their execution

Question 4:

3 Explain Machine Reference Model of Virtualizing an Execution Environment?



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Answer: Explain how cloud computing provides solution for On-Demand and Dynamic Scaling. Cloud computing enables on-demand and dynamic scaling through its flexible infrastructure and resource management: On-Demand: Users can access resources (compute, storage, etc.) as needed, paying only for what they consume. Dynamic Scaling: Cloud providers automatically adjust resources based on demand, scaling up or down to optimize performance and cost

Question 5:

6 Explain how cloud computing provides solution for On-Demand and Dynamic Scaling?

Answer: Explain Distributed system. A distributed system is a collection of interconnected, independent components that work together to achieve a common goal. Key characteristics: Physical Distribution: Components are geographically dispersed, often across multiple locations. Communication: Components interact via networks, exchanging data and coordinating actions. Transparency: Users interact with the system as a single entity, hiding the underlying distribution

Question 6:

5 Explain Distributed system?

Answer: Briefly discuss about cloud computing Platforms and Technologies. Cloud computing platforms encompass software and technologies used for building, deploying, and managing applications in the cloud. Key examples: Infrastructure as a Service (IaaS): Provides access to fundamental resources like servers, storage, and networks. (e.g., AWS EC2, Azure Virtual Machines) Platform as a Service (PaaS): Offers a platform for developing and deploying applications, including tools and services like databases, runtime environments, and



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middleware. (e.g., AWS Elastic Beanstalk, Heroku) Software as a Service (SaaS): Delivers fully functional software applications over the internet, accessible via web browsers or mobile apps. (e.g., Google Workspace, Salesforce)

Question 7:

2 Briefly discuss about cloud computing Platforms and Technologies?

Answer: Explain Distributed system. A distributed system consists of multiple independent computers that communicate and collaborate to achieve a common goal. Key characteristics include: Multiple computers: Components are physically separated. Communication: Components interact over a network. Concurrency: Multiple components operate simultaneously. Transparency: User experiences should be seamless despite the underlying distribution