1. What is cloud computing?

   - Cloud computing refers to the delivery of computing services over the internet (the cloud) instead of relying on local hardware and software. It allows users to access computing resources like servers, storage, databases, networking, and software applications on-demand, paying only for what they use.

2. List and explain the cloud models.

   - Public Cloud: Services are provided over the internet by third-party providers (e.g., AWS, Azure, Google Cloud) accessible to anyone. Resources are shared among multiple users.

   - Private Cloud: Computing resources are dedicated to a single organization, either hosted on-premises or by a third-party provider. Offers more control and security but requires higher maintenance.

   - Hybrid Cloud: Combines public and private cloud environments, allowing data and applications to be shared between them. Offers flexibility, scalability, and data deployment options.

3. Which are cloud services? Give examples of each one.

   - Infrastructure as a Service (IaaS): Provides virtualized computing resources over the internet, including virtual machines, storage, and networking. Example: Amazon EC2, Microsoft Azure Virtual Machines.

   - Platform as a Service (PaaS): Offers platforms and tools to develop, run, and manage applications without dealing with infrastructure complexities. Example: Google App Engine, Heroku.

   - Software as a Service (SaaS): Delivers software applications over the internet on a subscription basis, eliminating the need for local installation and maintenance. Example: Salesforce, Google Workspace.

4. What is Amazon EC2 instance?

   - Amazon Elastic Compute Cloud (Amazon EC2) is a web service that provides resizable compute capacity in the cloud. It allows users to launch virtual servers (instances) on-demand, configure them based on workload requirements, and pay for usage by the hour.

5. What is the use of Google App Engine?

   - Google App Engine is a Platform as a Service (PaaS) offering that allows developers to build and host web applications using Google's infrastructure. It handles infrastructure management, scaling, and deployment, allowing developers to focus on application development.

6. What is virtualization?

- Virtualization is the process of creating a virtual (rather than physical) version of computing resources, including servers, storage devices, networks, or operating systems. It allows multiple virtual instances to run on a single physical server, optimizing resource utilization and flexibility.

7. What is KVM? Explain the need for KVM.

- Kernel-based Virtual Machine (KVM) is an open-source virtualization technology that enables Linux to act as a hypervisor, allowing multiple virtual machines to run concurrently on a single physical machine. KVM provides hardware-assisted virtualization, improving performance and resource utilization.

8. What is Salesforce and Apex Programming Language?

- Salesforce: Salesforce is a cloud-based Customer Relationship Management (CRM) platform that allows businesses to manage customer relationships, sales, marketing, and service operations in the cloud.

- Apex Programming Language: Apex is a proprietary programming language developed by Salesforce for building custom applications and automating business processes within the Salesforce platform.

9. How to create a custom app in Salesforce?

- To create a custom app in Salesforce, you can use the Salesforce App Builder or Lightning App Builder. Start by defining objects (data tables), create custom fields, design user interfaces, and use Apex to add custom logic. Deploy the app to Salesforce users for use.

10. What is the use of Salesforce compared to other applications?

- Salesforce offers a comprehensive suite of CRM and business management tools accessible via the cloud, enabling organizations to streamline sales, marketing, customer service, and analytics processes. It provides scalability, flexibility, and integration capabilities that differentiate it from other applications.

Certainly! Here are answers to the oral questions related to Cloud Computing in a Q&A format:

1. What is Cloud Computing with an example?

- Answer: Cloud Computing is the delivery of computing services such as servers, storage, databases, networking, software, and more over the internet (the cloud) on a pay-as-you-go basis. Example: Using Google Drive to store and access files online without needing to manage local storage.

2. Who is the father of cloud computing?

- Answer: The term "cloud computing" was popularized by Joseph Carl Robnett Licklider, often regarded as one of the pioneers of cloud computing.

3. List down the basic characteristics of cloud computing.

- Answer:

1. On-Demand Self-Service

2. Broad Network Access

3. Resource Pooling

4. Rapid Elasticity

5. Measured Service

4. What do you mean by Vertical and Horizontal scaling in Cloud Computing?

- Answer:

- Vertical Scaling: Increasing the capacity of a single server by adding more resources (CPU, RAM) to meet increased demands.

- Horizontal Scaling: Adding more servers to distribute the load across multiple machines, also known as scaling out.

5. What are the services provided by Cloud Computing?

- Answer: Cloud Computing services include Infrastructure as a Service (IaaS), Platform as a Service (PaaS), and Software as a Service (SaaS).

6. What are different models in Deployment in Cloud Computing?

- Answer: Cloud deployment models include Public Cloud, Private Cloud, Hybrid Cloud, and Community Cloud.

7. Mention the platforms used for Large Scale Cloud Computing.

- Answer: Platforms such as Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP), and IBM Cloud are used for large-scale cloud computing.

8. Mention the names of some large cloud providers and databases.

- Answer: Large cloud providers include AWS, Azure, Google Cloud, IBM Cloud. Databases include Amazon RDS, Azure SQL Database, Google Cloud Spanner, IBM Db2.

9. Explain the difference between cloud and traditional data centers.

- Answer: Cloud offers on-demand access to scalable resources over the internet, while traditional data centers require physical infrastructure management and upfront investments.

10. What are the different components required in cloud computing?

- Answer: Components include Virtualization, Networking, Storage, Security, Automation, and Management Tools.

11. What are the different platforms of cloud architecture?

- Answer: Cloud architectures include IaaS (Infrastructure as a Service), PaaS (Platform as a Service), and SaaS (Software as a Service).

12. What is a cloud service?

- Answer: A cloud service is any service made available to users on demand via the internet from a cloud computing provider's servers.

13. List down the basic clouds in cloud computing.

- Answer: Public Cloud, Private Cloud, Hybrid Cloud, Community Cloud.

14. What are some issues with Cloud Computing?

- Answer: Security concerns, data privacy, vendor lock-in, compliance issues, and potential downtime are common issues.

15. Mention the services provided by Windows Azure Operating System.

- Answer: Windows Azure provides services like Virtual Machines, App Services, SQL Database, Azure Functions, and more.

16. What is Cloud Computing Architecture?

- Answer: Cloud Computing Architecture refers to the components and subcomponents required for cloud computing.

17. What are the Services provided by AWS?

- Answer: AWS provides a wide range of services including EC2 (Elastic Compute Cloud), S3 (Simple Storage Service), RDS (Relational Database Service), and more.

18. What are the Services provided by Microsoft?

- Answer: Microsoft Azure offers services like Virtual Machines, Azure SQL Database, Azure App Services, and Azure AI.

19. What is Virtualization?

- Answer: Virtualization is the process of creating a virtual (rather than physical) version of computing resources like servers, storage, or networks.

20. What is an EC2 instance?

- Answer: EC2 (Elastic Compute Cloud) instance is a virtual server provided by AWS that can be configured with various computing capacities.

21. What is AMI in EC2?

- Answer: An Amazon Machine Image (AMI) is a template that contains the software configuration (OS, applications) required to launch an EC2 instance.

22. How to launch an on-demand EC2 instance in AWS?

- Answer: Launch an EC2 instance using the AWS Management Console, AWS CLI, or AWS SDKs by selecting the desired AMI, instance type, and configuration options.

23. What is Google App Engine?

- Answer: Google App Engine is a Platform as a Service (PaaS) offering that allows developers to build and host web applications using Google's infrastructure.

24. What are the advantages of Google App Engine?

- Answer: Advantages include automatic scaling, built-in services (like data storage), support for multiple programming languages, and easy deployment.

25. What are the steps to install and configure Google App Engine?

- Answer: Sign up for Google Cloud, install Cloud SDK, create an App Engine project, and deploy your application using `gcloud` commands.

26. What is Apex?

   - Answer: Apex is a proprietary programming language used to build applications on the Salesforce platform.

27. What are the Features of Apex as a language?

   - Answer: Features include database integration, event-driven architecture, support for complex business logic, and easy integration with Salesforce objects.

28. What are the applications of Apex?

   - Answer: Apex is used to create custom business processes, triggers, workflows, and integrations within Salesforce.

29. List some Apex Code Development Tools.

   - Answer: Tools include Salesforce Developer Console, Salesforce Extensions for VS Code, and Force.com IDE.

30. What are the steps to create an application using Apex Programming Language?

   - Answer: Define data model (objects, fields), write Apex classes for business logic, and create user interfaces using Visualforce or Lightning components.

31. What is Salesforce.com Inc.?

   - Answer: Salesforce.com Inc. is a cloud-based software company known for its CRM platform and related enterprise applications.

32. What is Lightning Platform?

   - Answer: Lightning Platform is Salesforce's platform for building and deploying custom business applications with a focus on user interface design and customization.

33. How to create a Custom Application using Salesforce Classic?

   - Answer: Use Salesforce Setup to define custom objects, fields, page layouts, and workflows to create a custom application.

34. What is the difference between a custom application and a console application in Salesforce?

- Answer: A custom application is a collection of tabs and objects for a specific business process, while a console application is designed for managing multiple records simultaneously.

35. What are the steps to create a custom application using Salesforce?

  - Answer: Define custom

objects and fields, design layouts and workflows, create Apex classes and triggers, and configure security settings.

36. What is a hypervisor in Cloud Computing?

  - Answer: A hypervisor is a software or firmware that creates and runs virtual machines, allowing multiple operating systems to share a single physical hardware platform.

37. Explain Load Balancing in Cloud Computing.

  - Answer: Load Balancing distributes incoming network traffic across multiple servers to ensure no single server is overwhelmed, optimizing resource utilization and improving performance.

38. List the open-source cloud computing platform databases.

  - Answer: Open-source cloud databases include PostgreSQL, MySQL, Apache Cassandra, MongoDB, and Redis.

39. What are the recent trends in Cloud Computing?

  - Answer: Recent trends include serverless computing, multi-cloud environments, AI-driven automation, edge computing, and containerization.

40. What are the applications of Cloud Computing?

  - Answer: Cloud Computing is used in various applications such as data storage, backup, disaster recovery, development and testing environments, web hosting, and scalable application deployment.

These questions and answers cover a broad range of topics related to cloud computing, including concepts, services, platforms, programming languages, and applications.