CCL viva questions

1) What is cloud computing?

Cloud computing is an internet based new age computer technology. It is the next stage technology that uses the clouds to provide the services whenever and wherever the user need it.It provides a method to access several servers world wide.

2) What are the benefits of cloud computing?

The main benefits of cloud computing are:

- Data backup and storage of data.
- Powerful server capabilities.
- Incremented productivity.
- Very cost effective and time saving.
- Software as Service known as SaaS.

3) What is a cloud?

A cloud is a combination of networks ,hardware, services, storage, and interfaces that helps in delivering computing as a service. It has three users :

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Difference between JDK, JRE, and JVM

1. End users
2. Business management users
3. cloud service provider

4) What are the different data types used in cloud computing?

There are different data types in cloud computing like emails, contracts, images , blogs etc. As we know that data is increasing day by day so it is needed to new data types to store these new data. For an example, if you want to store video then you need a new data type.

5) Which are the different layers that define cloud architecture?

Following are the different layers that are used by cloud architecture:

- CLC or Cloud Controller
- Walrus
- Cluster Controller
- SC or Storage Controller
- NC or Node Controller

6) Which platforms are used for large scale cloud computing?

The following platforms are used for large scale cloud computing:

- Apache Hadoop
- MapReduce

7) What are the different layers in cloud computing? Explain working of them.

There are 3 layers in the hierarchy of cloud computing.

Infrastructure as a service (IaaS): It provides cloud infrastructure in terms of hardware as like memory, processor, speed etc.

Platform as a service (PaaS): It provides cloud application platform for the developer.

Software as a service (SaaS):: It provides the cloud applications to users directly without installing anything on the system. These applications remains on cloud.

8) What do you mean by software as a service?

Software As a Service (SaaS) is an important layer of cloud computing. It provides cloud applications like Google is doing. It facilitate users to save their document on the cloud and create as well.

9) What is the platform as a service?

It is also a layer in cloud architecture. This model is built on the infrastructure model and provide resources like computers, storage and network. It is responsible to provide complete virtualization of the infrastructure layer, make it look like a single server and invisible for outside world.

10) What is on-demand functionality? How is it provided in cloud computing?

Cloud computing provides a on-demand access to the virtualized IT resources. It can be used by the subscriber. It uses shared pool to provide configurable resources. Shared pool contains networks, servers, storage, applications and services.

11) What are the platforms used for large scale cloud computing?

Apache Hadoop and MapReduce are the platforms use for large scale cloud computing.

12) What are the different models for deployment in cloud computing?

These are the different deployment model in cloud computing:

Private cloud

Public cloud

Hybrid cloud

Community cloud

13) What is private cloud?

Private clouds are used to keep the strategic operations and other reasons secure. It is a complete platform which is fully functional and can be owned, operated and

restricted to only an organization or an industry. Now a day, most of the organizations have moved to private clouds due to security concerns. Virtual private cloud is being used that operate by a hosting company.

14) What is public cloud?

The public clouds are open to the people for use and deployment. For example: Google and Amazon etc. The public clouds focus on a few layers like cloud application, infrastructure providing and providing platform markets.

15) What are Hybrid clouds?

Hybrid clouds are the combination of public clouds and private clouds. It is preferred over both the clouds because it applies most robust approach to implement cloud architecture. It includes the functionalities and features of both the worlds. It allows organizations to create their own cloud and allow them to give the control over to someone else as well.

16) What is the difference between cloud computing and mobile computing?

Mobile computing and cloud computing are slightly same in concept. Mobile computing uses the concept of cloud computing . Cloud computing provides users the data which they required while in mobile computing, applications run on the remote server and gives user the access for storage and manage.

17) What is the difference between scalability and elasticity?

Scalability is a characteristic of cloud computing which is used to handle the increasing workload by increasing in proportion amount of resource capacity. By the use of scalability, the architecture provides on demand resources if the requirement is being raised by the traffic. Whereas, **Elasticity** is a characteristic which provides the concept of commissioning and decommissioning of large amount of resource capacity dynamically. It is measured by the speed by which the resources are coming on demand and the usage of the resources.

18) What are the security benefits of cloud computing?

Cloud computing authorizes the application service, so it is used in identity management.

It provides permissions to the users so that they can control the access of another user who is entering into the cloud environment.

19) What is the usage of utility computing?

Utility computing is a plug-in managed by an organization which decides what type of services has to be deployed from the cloud. It facilitates users to pay only for what they use.

20) What is "EUCALYPTUS" in cloud computing? Why is it used?

It is an acronym stands for Elastic Utility Computing Architecture For Linking Your Program To Useful Systems. It is an open source software infrastructure in cloud computing and used to implement clusters in cloud computing platform. It creates public, private and hybrid cloud. It facilitate a user to create his own data center into a private cloud and use its functionalities to many other organizations.

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21) Explain System integrators in cloud computing.

System integrator provides a strategy of a complicated process used to design a cloud platform. It creates more accurate hybrid and private cloud network because integrator have all the knowledge about the data center creation.

22) What are the open source cloud computing platform databases?

MongoDB, CouchDB, LucidDB are the example of open source cloud computing platform database.

23) Give some example of large cloud provider and databases?

Google bigtable

Amazon simpleDB

Cloud based SQL

24) What is the difference between cloud and traditional datacenters?

The cost of the traditional datacenter is higher than cloud because in traditional databases, there is overheating problems and some software and hardware issue.

25) What are the different in Software as a Service (SaaS)?

Simple Multi-tenancy: In this mode, Every user has independent resources and are uniquely different from other users. This is an efficient mode.

Fine grain multi-tenancy:: In this mode, the resources can be shared by many users but the functionality remains the same.

26) Why API's is used in cloud services?

API's (Application Programming Interfaces) is used in cloud platform because:

It provide an alternative way that you don't need to write the fully fledged program.

It makes communication between one or more applications.

It creates applications and link the cloud services with other systems.

27) What are the advantages of cloud services?

Following are the main advantages of cloud services:

- o **Cost saving:** It helps in the utilization of investment in the corporate sector. So, it is cost saving.
- o **Scalable and Robust:** It helps in the developing scalable and robust applications. Previously, the scaling took months, but now, scaling takes less time.
- o **Time saving:** It helps in saving time in terms of deployment and maintenance.

28) What are the different datacenters in cloud computing?

1. Containerized datacenter
2. Low density datacenter

29) What do you mean by CaaS?

CaaS is a terminology used in telecom industry as Communication As a Service. CaaS offers the enterprise user features such as desktop call control, unified messaging and desktop faxing.

30) What do you mean by VPN? What does it contain?

VPN stands for Virtual Private Network. VPN is a private cloud that manage the security of the data during the communication in the cloud environment. With VPN, you can make a public network as private network.

31) What are the basic clouds in cloud computing?

There are three basic clouds in cloud computing:

1. Professional cloud
2. Personal cloud
3. Performance cloud

32) What are the most essential things that must be followed before going for cloud computing platform?

- Compliance
- Loss of data
- Data storage
- Business continuity
- Uptime
- Data integrity in cloud computing

33) Which services are provided by Window azure operating system?

There are three core services provided by Window azure operating system:

- Compute
- Storage
- Management

34) What is the usage of virtualization platform in implementing cloud?

The main usage of virtualization platform in implementing cloud is:

- It is used to manage the service level policies.
- Cloud Operating System.
- Virtualization platforms help to keep the backend level and user level concepts different from each other.

35) We source cloud computing platform databases?

Following are the open source cloud computing platform databases:

- MongoDB
- CouchDB
- LucidDB

36) What are some large cloud providers and databases?

Following are the mostly used large cloud providers and databases:

- Google bigtable
- Amazon simpleDB
- Cloud based SQL

37) How would you secure data for transport in cloud?

This is the most obvious question accurued in mind that if the cloud data is secure; To ensure that, check that there is no data leak with the encryption key implemented with the data you sending while the data moves from point A to point B in cloud.

1) What are the advantages of using cloud computing?
The advantages of using cloud computing are

- Data backup and storage of data
- Powerful server capabilities
- SaaS (Software as a service)
- Information technology sandboxing capabilities
- Increase in productivity

- Cost effective & Time saving

2) Mention platforms which are used for large scale cloud computing?

The platforms that are used for large scale cloud computing are

- Apache Hadoop
- MapReduce

3) Explain different models for deployment in cloud computing?
The different deployment models in cloud computing are

- Private Cloud
- Public Cloud
- Community Cloud
- Hybrid Cloud

4) What is the difference in cloud computing and computing for mobiles?

Mobile computing uses the same concept as cloud computing. Cloud computing becomes active with the data with the help of internet rather than individual device. It provides users with the data which they have to retrieve on demand. In mobile, the applications runs on the remote server and gives user the access for storage and manage.

5) How user can gain from utility computing?
Utility computing allows the user to pay only for what they are using. It is a plug-in managed by an organization which decides what type of services has to be deployed from the cloud.

Most organizations prefer hybrid strategy.

6) For a transport in cloud how you can secure your data?

To secure your data while transporting them from one place to another, check that there is no leak with the encryption key implemented with the data you are sending.

7) What are the security aspects provided with cloud?

- Identity management: It authorizes the application services
- Access control: permission has to be provided to the users so that they can control the access of another user who is entering into the cloud environment.

- Authentication and Authorization: Allows only the authorized and authenticated user only to access the data and applications

8) List out different layers which define cloud architecture?
The different layers used by cloud architecture are

- CLC or Cloud Controller
- Walrus
- Cluster Controller
- SC or Storage Controller
- NC or Node Controller

9) What are system integrators in Cloud Computing?

In Cloud Computing, systems integrator provides the strategy of the complicated process used to design a cloud platform. Integrator allows to create more accurate hybrid and private cloud network, as integrators have all the knowledge about the data center creation.

10) What is " EUCALYPTUS" stands for?

" EUCALYPTUS" stands for Elastic Utility Computing Architecture For Linking Your Programs To Useful Systems"

11) Explain what is the use of "EUCALYPTUS" in cloud computing?

"Eucalyptus" is an open source software infrastructure in cloud computing, which is used to implement clusters in cloud computing platform. It is used to build public, hybrid and private clouds. It has the ability to produce your own data center into a private cloud and allows you to use its functionality to many other organizations.

12) What is the requirement of virtualization platform in implementing cloud?

The requirement of virtualization platform in implementing cloud is to

- Manage the service level policies
- Cloud Operating System
- virtualization platforms helps to keep the backend level and user level concepts different from each other

13) Before going for cloud computing platform what are the essential things to be taken in concern by users?

- Compliance

- Loss of data
- Data storage
- Business continuity
- Uptime
- Data integrity in cloud computing

14) Mention some open source cloud computing platform databases?

The open source cloud computing platform databases are

- MongoDB
- CouchDB
- LucidDB

15) What are the security laws which are implemented to secure data in a cloud ?

The security laws which are implemented to secure data in cloud are

- Processing: Control the data that is being processed correctly and completely in an application
- File: It manages and control the data being manipulated in any of the file
- Output reconciliation: It controls the data which has to be reconciled from input to output
- Input Validation: Control the input data
- Security and Backup: It provides security and backup it also controls the security breaches logs

16) Mention the name of some large cloud providers and databases?

- Google bigtable
- Amazon simpleDB
- Cloud based SQL

17) Explain the difference between cloud and traditional datacenters?

- The cost of the traditional data center is higher due to heating and hardware/software issues
- Cloud gets scaled when the demand increases. Majority of the expenses are spent on the maintenance of the data centers, while that is not the case with cloud computing

18) Explain what are the different modes of software as a service (SaaS)?

- Simple multi-tenancy : In this each user has independent resources and are different from other users, it is an efficient mode.
- Fine grain multi-tenancy: In this type, the resources can be shared by many but the functionality remains the same.

19) What is the use of API's in cloud services?

API's (Application Programming Interface) is very useful in cloud platforms

- It eliminates the need to write the fully fledged programs
- It provides the instructions to make communication between one or more applications
- It allows easy creation of applications and link the cloud services with other systems

20) What are the different data centers deployed for cloud computing?

Cloud computing consists of different datacenters like

- Containerized Datacenters
- Low Density Datacenters

21) In cloud computing what are the different layers?

The different layers of cloud computing are:

- SaaS: Software as a Service (SaaS), it provides users access directly to the cloud application without installing anything on the system.
- IaaS: Infrastructure as a service, it provides the infrastructure in terms of hardware like memory, processor speed etc.
- PaaS: Platform as a service, it provides cloud application platform for the developers

22) How important is the platform as a service?

Platform as a service or PAAS is an important layer in cloud computing. It provides application platform for providers. It is responsible for providing complete virtualization of the infrastructure layer and makes it work like a single server.

23) What is a cloud service?
Cloud service is used to build cloud applications using the server in a network through internet. It provides the facility of using the cloud application without installing it on the computer. It also reduces the

maintenance and support of the application which are developed using cloud service.

24) List down the three basic clouds in cloud computing?

- Professional cloud
- Personal cloud
- Performance cloud

25) As a infrastructure as a service what are the resources that are provided by it?

IAAS (Infrastructure As A Service) provides virtual and physical resources that are used to build a cloud. It deals with the complexities of deploying and maintaining of the services provided by this layer. Here the infrastructure is the servers, storage and other hardware systems.

26) What are the business benefits involved in cloud architecture?

The benefits involved in cloud architecture is

- Zero infrastructure investment
- Just in time infrastructure
- More efficient resource utilization

27) What are the characteristics of cloud architecture that separates it from traditional one?

The characteristics that makes cloud architecture above traditional architecture is

- According to the demand cloud architecture provides the hardware requirement
- Cloud architecture is capable of scaling the resource on demand
- Cloud architecture is capable of managing and handling dynamic workloads without failure

28) Mention what is the difference between elasticity and scalability in cloud computing?

Scalability is a characteristics of cloud computing through which increasing workload can be handled by increasing in proportion the amount of resource capacity. Whereas, elasticity, is being one of the characteristics that highlights the concept of commissioning and decommissioning of a large amount of resource capacity.

29) Mention the services that are provided by Window Azure Operating System?

Window Azure provides three core services which are given as

- Compute
- Storage
- Management

30) In cloud architecture what are the different components that are required?

- Cloud Ingress
- Processor Speed
- Cloud storage services
- Cloud provided services
- Intra-cloud communications

31) In cloud architecture what are the different phases involved?

- Launch Phase
- Monitor Phase
- Shutdown Phase
- Cleanup Phase

32) List down the basic characteristics of cloud computing?

- Elasticity and Scalability
- Self-service provisioning and automatic de-provisioning
- Standardized interfaces
- Billing self service based usage model

33) In cloud architecture what are the building blocks?

- Reference architecture
- Technical architecture
- Deployment operation architecture

34) Mention in what ways cloud architecture provide automation and performance transparency?

To provide the performance transparency and automation there are many tools used by cloud architecture. It allows to manage the cloud architecture and monitor reports. It also allows them to share the application using the cloud architecture. Automation is the key component of cloud architecture which helps to improve the degree of quality.

35) In cloud computing explain the role of performance cloud?

Performance cloud is useful in transferring maximum amount of data instantly. It is used by the professionals who work on high performance computing research.

36) Explain hybrid and community cloud?

Hybrid cloud: It consists of multiple service providers. It is a combination of public and private cloud features. It is used by the company when they require both private and public clouds both.

Community Cloud: This model is quite expensive and is used when the organizations having common goals and requirements, and are ready to share the benefits of the cloud service.

37) In cloud what are the optimizing strategies?

To overcome the maintenance cost and to optimize the resources ,there is a concept of three data center in cloud which provides recovery and back-up in case of disaster or system failure and keeps all the data safe and intact.

38) What is Amazon SQS?

To communicate between different connectors Amazon SQS message is used, between various components of AMAZON, it acts as a communicator.

39) How buffer is used to Amazon web services?

In order to make system more efficient against the burst of traffic or load, buffer is used. It synchronizes different component . The component always receives and processes the request in an unbalanced way. The balance between different components are managed by buffer, and makes them work at the same speed to provide faster services.

40)   Mention what is Hypervisor in cloud computing and their types?

Hypervisor is a Virtual Machine Monitor which manages resources for virtual machines. There are mainly two types of hypervisors

Type 1: The guest Vm runs directly over the host hardware, eg Xen, VmWare ESXI

Type 2: The guest Vm runs over hardware through a host OS, eg Kvm, oracle virtualbox