Part - A

1. **What is the working principle of Cloud Computing?**

   The cloud is a collection of computers and servers that are publicly accessible via the This hardware is typically owned and operated by a third party on a consolidated basis in one or more data center locations. The machines can run any combination of operating systems.

2. **What is Virtualization?**

   Virtualization is a foundational element of **cloud computing** and helps deliver on the value of **cloud computing**," Adams said. "**Cloud computing** is the delivery of shared **computing** resources, software or data — as a service and on-demand through the Internet.

3. **Define Cloud services with example.**

   Any web-based application or service offered via cloud computing is called a cloud Cloud services can include anything from calendar and contact applications to word processing and presentations.

4. **What are the types of Cloud service development?**

   - Software as a Service
   - Platform as a Service
   - Infrastructure as a Service

5. **Explain cloud provider and cloud broker?**

Cloud Provider: Is a company that offers some component of cloud computing typically infrastructure as a service, software as a Service or Platform as a Service. It is something referred as CSP.

Cloud Broker: It is a third party individual or business that act as an intermediary between the purchase of cloud computing service and sellers of that service.

6. **Define - Private Cloud.**

The *private cloud* is built within the domain of an intranet owned by a single organization. Therefore, they are client owned and managed. Their access is limited to the owning clients and their partners. Their deployment was not meant to sell capacity over the Internet through publicly accessible interfaces. Private clouds give local users a flexible and agile private infrastructure to run service workloads within their administrative domains.

7. **Define - Public Cloud.**

A *public cloud* is built over the Internet, which can be accessed by any user who has paid for the service. Public clouds are owned by service providers. They are accessed by subscription. Many

companies have built public clouds, namely Google App Engine, Amazon AWS, Microsoft Azure, IBM Blue Cloud, and Salesforce Force.com. These are commercial providers that offer a publicly accessible remote interface for creating and managing VM instances within their proprietary infrastructure.

8. Define - Hybrid Cloud.

A *hybrid cloud* is built with both public and private clouds; Private clouds can also support a *hybrid cloud* model by supplementing local infrastructure with computing capacity from an external public cloud. For example, the *research compute cloud* (RC2) is a private cloud built by IBM.

9. Define anything-as-a-service?

Providing services to the client on the basis on meeting their demands at some pay per use cost such as data storage as a service, network as a service, communication as a service etc. It is generally denoted as anything as a service (XaaS).

10. What is mean by SaaS?

The software as a service refers to browser initiated application software over thousands of paid customer. The SaaS model applies to business process industry application, consumer relationship management (CRM), Enterprise resource Planning (ERP), Human Resources (HR) and collaborative application.

11. What is mean by IaaS?

The Infrastructure as a Service model puts together the infrastructure demanded by the user namely servers, storage, network and the data center fabric. The user can deploy and run on multiple VM's running guest OS on specific application**.**

12. Explain PaaS?

The Platform as a Service model enables the user to deploy user built applications onto a virtualized cloud platform. It includes middleware, database, development tools and some runtime support such as web2.0 and java. It includes both hardware and software integrated with specific programming interface.

13. List out the advantages of Cloud Computing.

- Lower IT Infrastructure Costs
- Fewer Maintenance Issues
- Lower Software Costs
- Instant Software Updates
- Increased Computing Power
- Unlimited Storage Capacity
- Increased Data Safety

- Improved Compatibility Between Operating Systems
- Improved Document Format Compatibility
- Easier Group Collaboration
- Universal Access to Documents
- Latest Version Availability
- Removes the Tether to Specific Devices

14. List out the disadvantages of Cloud Computing.

- Requires a Constant Internet Connection
- Doesn't Work Well with Low-Speed Connections
- Can Be Slow
- Features Might Be Limited
- Stored Data Might Not Be Secure
- If the Cloud Loses Your Data, You're Screwed

15. What is Hypervisor?

A **hypervisor** or virtual machine monitor (VMM) is a piece of computer software, firmware or hardware that creates and runs virtual machines. A computer on which a **hypervisor** is running one or more virtual machines is defined as a host machine. Each virtual machine is called a guest machine.

16. What are the types of hypervisor?

There are two types of hypervisors:

- Type 1 (bare-metal)
- Type 2 (hosted)

Type 1 hypervisors run directly on the system hardware. They are often referred to as a "native" or "bare metal" or "embedded" hypervisors in vendor literature.

Type 2 hypervisors run on a host operating system. When the virtualization movement first began to take off, Type 2 hypervisors were most popular. Administrators could buy the software and install it on a server they already had.

PART – B

1) Write short notes on cloud deployment model. (16)
2) Explain in detail, categories of cloud. (16)
3) Explain in detail, pros and cons of cloud. (8)
4) Explain in detail, different implementation level of virtualization? (16)
5) Write short notes on OS level virtualization. List the pros and cons of OS level virtualization. (16)
6) Explain in detail, the virtualization of CPU, Memory and I/O devices. (16)
7) Write short notes on virtual clusters. (8)
8) Explain in detail, the virtualization for data center automation. (16)