**CLOUD CONCEPTS**

**Cloud Computing**

* It’s a model that allows users to access various **computing services** on internet.
* These **computing resources** can be servers, storage, databases etc.

**Service Models Characteristics**

* **On-demand self-service:** Cloud services are managed by users **themselves**.
* **Broad network access:** Regular way we access cloud services through our **devices**, using standard internet protocols.
* **Resource pooling:** Multiple users manage a group of resources using cloud services, which can be **reassigned** in a different manner & users can be **added or removed**.
* **Rapid elasticity:** User can rapidly change the **amounts of resources** assigned to them to meet the demands by consumers to access them.
* **Measure service:** Transparency, which allows users to know exact measures of resources they are using & thus **pay accordingly**.

**Service Models**

* **Infrastructure as a Service (IaaS):** Users **rent** for virtual machines, servers & other networking devices etc.
* **Platform as a Service (PaaS):** Provides a whole **platform** which includes operating system, frameworks & other tools to help build and deploy applications.
* **Software as a Service (SaaS):** Users can use **web applications** after paying for a suitable subscription plan.

**Cloud Models**

* **Public cloud:** Service resources are distributed among various organization on the internet. Like **AWS**, **Azure** & **GCP** etc.
* **Private cloud:** Hardware infrastructure by a **single organization** but may be managed by third-party vendor.
* **Hybrid cloud:** Combined attributes of **public** & **private** clouds. Public clouds provide flexibility while private ones provide more security.
* **Community cloud:** Used within individual communities in an organization with tailored features as per needs.