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Assignment

Module -1: Introduction To Cloud Computing

1. What is Cloud Computing?

Answer - Cloud computing is a technology that allows users to store, manage, and access data and applications over the internet instead of using a local computer or physical server.

In cloud computing, services like servers, storage, databases, networking, software, and computing power are provided online by cloud service providers. Users can access these services anytime, anywhere, using an internet connection.

Example:

- . Google Drive for storage**

- . Gmail for email**
- . Online servers for hosting websites**

👉 Instead of buying and maintaining hardware, users rent computing resources and pay only for what they use.

2. Describe Cloud Computing Deployment Models.

Answer - A deployment model defines how and where cloud services are deployed and who can access them. There are four main deployment models:

1. Public Cloud

- . Cloud services are provided by third-party companies over the internet.**
- . Resources are shared among multiple users.**
- . Cost-effective and easy to use.**

Example: AWS, Microsoft Azure, Google Cloud

Best for: Small businesses, startups, general users

2. Private Cloud

- . Cloud infrastructure is used by only one organization.**
- . Can be managed internally or by a third party.**
- . Provides better security and control.**

Best for: Banks, government organizations, large enterprises

3. Hybrid Cloud

- . Combination of public and private cloud.**
- . Allows data and applications to move between both environments.**

Best for: Organizations needing flexibility and better data control

4. Community Cloud

- . Shared by several organizations with common requirements.**
- . Cost and infrastructure are shared.**

Best for: Universities, research groups, healthcare organizations

3. What are the Components of Cloud Computing?

Answer - Cloud computing consists of three main components:

1. Front End (Client Side)

- . This is the user interface.**
- . Includes devices like computers, mobiles, browsers, and apps.**
- . Used to access cloud services.**

2. Back End (Cloud Side)

- . The main part of cloud computing.**

- Includes servers, storage systems, databases, and virtual machines.
- Managed by the cloud service provider.

3. Cloud Delivery Models

These define what type of service is provided:

- **IaaS (Infrastructure as a Service):**
Virtual servers and storage
- **PaaS (Platform as a Service):**
Development platforms
- **SaaS (Software as a Service):** Ready-to-use software

4. Cloud computing advantage and disadvantage Advantages of Cloud Computing

Answer - Advantages of Cloud Computing

- 1. Cost Saving**

- **No need to buy expensive hardware or software.**
- **Pay only for what you use.**
- 2. Scalability**
 - **Resources can be increased or decreased easily.**
- 3. Accessibility**
 - **Data can be accessed from anywhere using the internet.**
- 4. Automatic Updates**
 - **Software and security updates are handled by the provider.**
- 5. Data Backup and Recovery**
 - **Cloud provides automatic data backup and recovery options.**

Disadvantages of Cloud Computing

- 1. Internet Dependency**
 - **Requires a stable internet connection.**

2. Security Risks

- **Data stored online may face security threats if not properly managed.**

3. Limited Control

- **Users have less control over infrastructure.**

4. Downtime

- **Cloud services may sometimes be unavailable due to server issues.**

5. Vendor Lock-in

- **Switching providers can be difficult.**