**CLOUD COMPUTING**

**Module 3**

**1.** Object storage stores data as discrete objects (files) along with associated metadata (e.g., file name, creation date).

File storage organizes data into files and directories, similar to a local file system.

Block storage divides data into fixed-sized blocks and provides raw storage volumes.

2. Role based access control is a method for managing access to resources based on predefined roles. Each user or identity is assigned a role, and permissions are associated with those roles.

 Incident and access management refers to the processes and technologies used to manage user identities and control their access to resources.

Multifactor authentication adds an extra layer of security by requiring users to provide multiple forms of authentication.

3. Physical host allocation refers to the process of provisioning resources (such as CPU, memory, and storage) on a physical server or host.

Virtual host allocation occurs in virtualized environments (e.g., VMware, Hyper-V, or KVM).

4.Connectivity:

Ensure you have an internet connection.

Use any device (computer, tablet, smartphone) with a web browser.

Access Methods:

Web Console: Most cloud providers offer a web-based console (dashboard). Log in to manage resources, create VMs, configure storage, and more.

Command Line Interface (CLI): Use command-line tools (e.g., AWS CLI, Azure CLI) to interact with cloud services programmatically.

APIs: Developers can use APIs to automate resource management and integrate cloud services into applications.

Authentication:

Log in using your cloud provider’s credentials (username/password or API keys).

Some providers offer single sign-on (SSO) with identity providers (e.g., Google, Azure AD).

Resource Types:

Compute: Access virtual machines (VMs), containers, and serverless functions.

Storage: Use object storage (like Amazon S3), file storage (like Azure File Storage), or block storage (like Google Persistent Disk).

Networking: Configure virtual networks, load balancers, and firewalls.

Databases: Create and manage databases (e.g., Amazon RDS, Azure SQL Database).

5.Full Backups:

A full backup creates a complete copy of all data on a specific day.

It’s a snapshot of the entire dataset.

[Useful for fast recovery but consumes more storage space](https://www.veritas.com/information-center/cloud-backup).

Incremental Backups:

Copies only data that has changed since the last backup (usually a full backup).

Efficient in terms of storage and backup time.

[Requires the full backup and all incremental backups for recovery](https://www.veritas.com/information-center/cloud-backup).

Differential Backups:

Copies all data changed since the last full backup.

Acts as a constant reference point for subsequent backups.

[Requires the full backup and the latest differential backup for recovery](https://www.veritas.com/information-center/cloud-backup)

6.Disaster recovery refers to the processes, policies, and tools used to recover IT systems, data, and operations after a disaster (e.g., natural calamities, hardware failures, cyberattacks).

The goal is to minimize downtime and data loss.