**DAR ES SALAAM INSTITUTE OF TECHNOLOGY (DIT)**



**DEPARTMENT:**  COMPUTER STUDIES

**MODULE:** CLOUD COMPUTING

**MODULE CODE:**ITT 05217

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**CLASS:**  OD221T

**GROUP ASSIGNMENT 2**

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Cloud computing services refer to the delivery of various computing resources, such as servers, storage, databases, networking, software, and more, over the internet. These services are provided by cloud service providers, allowing users to access and utilize computing resources without the need for owning physical infrastructure or managing it directly. Here are some common types of cloud computing services along with examples:

1. Infrastructure as a Service (IaaS):

- Example: Amazon Web Services (AWS), Microsoft Azure, Google Cloud Platform (GCP)

- Description: IaaS provides virtualized computing resources over the internet, including virtual machines (VMs), storage, and networking. Users have full control over the operating system and applications running on the infrastructure.

2. Platform as a Service (PaaS):

- Example: Heroku, Microsoft Azure App Service, Google App Engine

- Description: PaaS provides a platform allowing developers to build, deploy, and manage applications without worrying about underlying infrastructure. It typically includes development tools, middleware, databases, and other resources needed for application development and deployment.

3. Software as a Service (SaaS):

- Example: Salesforce, Google Workspace, Microsoft Office 365

- Description: SaaS delivers software applications over the internet on a subscription basis. Users can access these applications through a web browser without needing to install or maintain any software locally. Examples include email services, customer relationship management (CRM) systems, and office productivity suites.

4. Serverless Cloud Computing Service

Serverless computing, also known as Function as a Service (FaaS), is a cloud computing model where cloud providers dynamically manage the allocation and provisioning of servers, allowing developers to focus solely on writing and deploying code without concerning themselves with server management.

Examples:

AWS Lambda: A serverless compute service provided by Amazon Web Services (AWS). Developers can upload their code as functions and define triggers to execute them in response to various events within the AWS ecosystem.

Google Cloud Functions: Similar to AWS Lambda, Google Cloud Functions allows developers to write and deploy event-driven functions that automatically scale based on demand. It integrates seamlessly with other Google Cloud services.

Azure Functions: Microsoft Azure's serverless computing platform, which enables developers to build and deploy functions using various programming languages. Azure Functions can be triggered by a variety of events, such as HTTP requests, timers, or Azure service events.

Netlify Functions: A serverless function service offered by Netlify, primarily used for deploying serverless functions in conjunction with static websites. It allows developers to build full-stack applications without managing servers.

Firebase Cloud Functions: A serverless platform provided by Google Firebase, commonly used for building mobile and web applications. Firebase Cloud Functions integrate with other Firebase services and Google Cloud Platform, allowing developers to build powerful, serverless backends for their applications.

These cloud computing services offer scalability, flexibility, and cost-effectiveness, making them popular choices for businesses and developers looking to leverage technology resources without the burden of managing physical infrastructure.