

# Exercise Sheet 1: Introduction to Cloud Computing

## Questions and Answers

### 1. What is Cloud Computing? Define cloud computing and its key characteristics.

**Answer:** Cloud computing is the delivery of computing services—servers, storage, databases, networking, software, analytics, and intelligence—over the Internet (“the cloud”) to offer faster innovation, flexible resources, and economies of scale. Key characteristics include on-demand self-service, broad network access, resource pooling, rapid elasticity, and measured service.

### 2. Cloud Service Models: Describe IaaS, PaaS, and SaaS with examples.

**Answer:**

- **IaaS (Infrastructure as a Service):** Provides virtualized computing resources over the internet. Example: AWS EC2.
- **PaaS (Platform as a Service):** Offers hardware and software tools over the internet. Example: Google App Engine.
- **SaaS (Software as a Service):** Delivers software applications over the internet, on a subscription basis. Example: Microsoft Office 365.

### 3. Cloud Deployment Models: Explain public, private, and hybrid clouds.

**Answer:**

- **Public Cloud:** Services are delivered over the public internet and shared across organizations. Example: AWS.
- **Private Cloud:** Services are maintained on a private network and used by a single organization. Example: VMware.
- **Hybrid Cloud:** Combines public and private clouds, allowing data and applications to be shared between them. Example: Microsoft Azure Stack.