**Module -2**

**1-What is virtualization and virtualization type?**

**ANS: virtualization is a technology that allows the creation of virtual rather then physical versions of computing resources such as hardware platforms storage devices networks or operating systems this enables multiple virtual system or environments to run on a single physical system improving rsources virtualization decouples the hardware from the software creating a layesr of abstraction, types hardware virtualization, operating system virtualization, network virtualization, storage virtualization, application virtualization, desktop virtualization.**

**2-Type of hypervisor and how to manage it?**

**ANS: Hypevisors are software or firmware that enable virtualization by allowing multiple virtual machines VMs to run on a single physical machine hardware resources such as CPU, memory and storage to each VM, bare metal hypervisor, hosted hypervisor.**

**3-Roles of virtualization in cloud computing?**

**ANS: Virtualization plays a key role in cloud computing enabling users to access computing resources on-demand without managing the underlying physical infrastructure, Resource utilization, security, disaster recovery, scalability, flexibility, efficiency, remote access, hardware independence, development productivty.**

**4-What is container?**

**ANS: The container a physical receptacle for holding gods and software development, benefits of contaners Isolation, consistency, lower overhead, popular container platforms, Docker, containerd, orchestration tools, kubernetes.**

**5-What is high availability and live migration in virtualization?**

**ANS: High availability HA is the design of systems that are always accessible and can recover quickly from failures Live migration is a process that can help achieve HA by moving a virtual machine VM from one physical host to another without interrupting the workload, hogh availability, live migration.**

**5-Storage configuration –describe block storage, file storage and object storage---DAS NAS**

**and SAN**

**ANS: Data is stored in fixed-sized blocks each block acts independently and can be acessed or modify without affecting othes, DAS direct-attached storage which blocks orinted and connects directly to the server, NAS network-attached storage which uses shared files and is ideal for smaler file storage and data sharing, SAN storage area network which uss block computing workloads SAN is designed for handling file formats ans scaling over time.**

**6-Describe storage allocation and provisioning. Storage Allocation**

**ANS: Storage provisioning refers to the process of allocation storage resources to server application or users within an IT environment, storage provisioning.**