

Intro to Cloud Computing
(CS4037) BDS8A

Date: February 24th, 2025

Course Instructor(s): Ali Khawaja

Sessional-I Exam

Total Time (Hrs.): 1

Total Marks: 100

Total Questions: 6

Roll No

Section

Student Signature

Do not write below this line

Attempt all the questions. Provide concise and brief answers.

CLO 1. Apply cloud computing knowledge in various real world use cases (situations)

Q1:

- a. Given the address space: 192.168.0.0/24:
- How many total IP addresses are in this address space? (2): 256
 - Provide the range of the given address space. (3): 192.168.0.0 → 192.168.0.255
 - Divide the network address into 4 equal subnets and provide the range for each subnet (10)

Subnet	Range
192.168.0.0/26	192.168.0.0 → 192.168.0.0
192.168.0.64/26	192.168.0.0 → 192.168.0.0
192.168.0.128/26	192.168.0.0 → 192.168.0.0
192.168.0.192/26	192.168.0.0 → 192.168.0.0

- b. Briefly explain the scenario where you would use each of the following services: (10)
- VNET Peering: To connect two or more Azure Virtual Networks
 - VPN: To connect an Azure and a non-Azure network
 - ExpressRoute: To physically connect an on-premises data center with Azure Data center

CLO 2. Apply cloud computing knowledge in various real world use cases (situations)

Q2: Azure App Service

- (a) Provide 3 benefits of azure app service. (5) [1]
- Deployment and management are integrated into the platform.
 - Endpoints can be secured.
 - Sites can be scaled quickly to handle high traffic loads.
 - The built-in load balancing and traffic manager provide high availability.
- (b) Why do we need app service plan for azure app service? (5)
- App service plan provides the compute for app service

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- (c) What is the difference in code vs container deployment in Azure app service? (10)
- You don't need to provide the runtime environment when deploying container in an Azure app service*

CLO 1. Describe the basics of cloud computing and related services

Q3: IaaS Scalability & Resiliency

- Mention the cloud service you can use to ensure application uptime during VM updates? (5)
 - Availability Sets*
- What cloud functionality allows VM to survive: (5)
 - power failure in a single datacenter? Availability Set*
 - datacenter failure? Availability zone*
- What cloud functionality allows VMs to scale based on high traffic? How do you ensure that identical virtual machines during scale operation. (10)
 - VM Scale Sets*
 - By providing pre-configured VM image*

CLO 2. Apply cloud computing knowledge in various real world use cases (situations)

Q4: What is the difference between assigning roles at subscription level, at resource group level, and at resource level? (10)

Ans: Role assignment at subscription level get applied to all resources under that subscription, resource group level assignment applied to resources in that resource group only, while resource level assignment gives a user permission on that resource only.

CLO 2. Apply cloud computing knowledge in various real world use cases (situations)

Q5:

- Why do you need Entra Domain Service compared to Entra ID service? (5)
 - To support legacy applications that require domain services over ldap*
- How do you synchronize users and passwords from On-Premises Directory Service to Entra Domain Service? Provide brief answer in 2-3 bullet points. (10)
 - Sync the objects from on-premises Directory Services with Entra ID using Entra ID connect*
 - Sync the object from Entra ID to Entra Domain Services directly*

CLO 2. Apply cloud computing knowledge in various real world use cases (situations)

Q6: When do you create CNAME record? Mention the name of a service in Azure for which can create CNAME record. (10)

Ans: A) To rename an existing domain record. B) Storage account, since Microsoft already provides an existing domain record for the storage account. We can create a custom domain for it using CNAME record.

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References

1. <https://learn.microsoft.com/en-us/training/modules/describe-azure-compute-networking-services/7-describe-application-hosting-options>