

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

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Attempt all the questions. Provide concise and brief answers.

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

Q1:

- 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

- 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

- 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.

- 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>