PART 1:

1. **What are 3 common job roles that combine security and cloud skills?**
    a. **Cloud Security Analyst or Cloud Penetration Tester- These roles must consist that the employees understand cloud architecture in order to test the security settings for a given organization/environment**
    b. **Cloud Architect- builds out a cloud environment for an organization. The expectations are to understand how to BUILD in security from GROUND UP**
    c. **DevSecOps- responsible for maintaining production and testing environments for an organization. Expectations: build and maintain secure systems at every step of the DEVELOPMENT PROCESS.**

1. **What are the 3 biggest cloud provider platforms?**
    a. **IAAS (infrastructure as a service)**
    i.

2. **What are the 6 most common cloud services (and their acronyms)?**
    a. **IaaS--- Infrastructure as a Service**
    b. **PaaS--- Platform as a Service**
    c. **SaaS--- Software as a Service**
    d. **DaaS/DBaaS--- Data as a Service/ Database as a Service**
    e. **CaaS--- Communication as a Service**
    f. **Xaas--- Anything as a Service**

3. **What is the difference between a virtual network and a physical network?**
    a. **Virtual networks have no physical connection, allowing more flexibility. Physical Network is a wired connection within a data center**

4. **What is the point of setting your first firewall rule to block *all* traffic?**
    a. **This is a common tool to disable any and everything from all traffic based on the preferences of the organization or user to ensure only what is necessary for a given operation.**

5. **What is the difference between physical computing components (PCC)-- (CPU, RAM, HDD/SSD) and virtual computing components (VCC)?**
    a. **The difference between VCC and PCC, is that the VCC is using resources based off software and logical portions of the actual physical components without being on premises and having the resources of a physical server that lays within the organization/environment where those physical resources can be accessed ie. 80 CPUs, 320GB of RAM, & 256TB of storage/ *divided***

6. **What is the purpose of using an encrypted ssh key to connect to a machine?**
    a. **Authenticating a key for SSH plays a role within your virtual network allowing further security steps because of the non-use of a password. In order to establish the SSH key, configuration requires holding a private key making a forced entry more difficult to achieve**

7. **What is the difference between a container and a virtual machine?**
    a. **Containers are Lightweight VM's; containers unlike VM's; share those resources with the host VM and each other.**

8. **What is a provisioner? Provide 3 examples of common provisioning software.**
    a. **Tools that automatically configure VMs or containers**

9. **What is meant by Infrastructure as Code?**
    a. **Idea that the configurations for all of the VM's, containers, and networks in your deployment should be defined in text files, which you can use with provisioners to automatically recreate machines and networks whenever necessary!**

10. **What is Continuous Integration/Continuous Deployment?**
    a. **Whenever your Infrastructure of code (IaC) file changes so does your machine automatically update.**

11. **What is a VPN and when should we use one?**
    a. **A tool or resource used to encrypt all network traffic between your current network and remote network. VPN enables the user to have full access to all resources on the desired remote network.**

12. **What is the purpose of a load balancer?**
    a. **Is a resource used to give VM's a balanced flow of traffic. LB provides an external IP address that is accessed by the internet. It retrieves any traffic that comes into the website and distributes it across multiple servers. More traffic, more servers can be created and utilized. This resource will smooth out transitions of traffic evenly among the servers and mitates such attacks**

like DoS.

13. What is a resource group in Azure?

a. **A tool used for grouping of all resources used for a specific project or daily assignment. It consists of networks,firewalls, virtual computers, etc..**

14. What is Region in Azure?

a. **An important resource tool to extinguish a region where a set of data centers exist in close proximity to one another to avoid network waiting times.**

PART 2- Topology