Azure fundamental assignment 3

1. **What is Azure App Service and when to opt for Azure App Service?**

   Azure App Service is an HTTP-based service for hosting web applications, REST APIs, and mobile back ends. You can develop in your favorite language, be it . NET, . NET Core, Java, Ruby, Node.

   Azure App Service lets you create apps faster with a one-of-a kind cloud service to quickly and easily create enterprise-ready web and mobile apps for any platform or device and deploy them on a scalable and reliable cloud infrastructure.

2. **Differentiate Azure Container Instances and Azure Kubernetes Service**

   Azure Container Instances

   It is a solution for any scenario that can operate in isolated containers, without orchestration. Run event-driven applications, quickly deploy from your container development pipelines, and run data processing and build jobs.

   Azure Kubernetes Service

   Deploy and manage containerized applications more easily with a fully managed Kubernetes service. It offers serverless Kubernetes, an integrated continuous integration and continuous delivery (CI/CD) experience, and enterprise-grade security and governance. Unite your development and operations teams on a single platform to rapidly build, deliver, and scale applications with confidence.

3. **What is the Azure function? Explain in brief.**

   Azure Functions is a cloud service available on-demand that provides all the continually updated infrastructure and resources needed to run your applications. You focus on the pieces of code that matter most to you, and Functions handles the rest. Functions provides serverless compute for Azure.

4. **What is Azure Virtual Desktop?**

   A virtual desktop is a full desktop that runs on a remote server. This enables you to securely access work applications and data from wherever you are and on any device. It expands the possibilities beyond the physical desktop screen in the office.

Azure VD is a desktop app and visualization service that runs on the cloud. It provides all the benefits you might expect from a virtual desktop while offering the same tools and resources your employees already use.

5. **What is Azure virtual networking? Explain in detail.**

Azure Virtual Network

The Azure Virtual Network is a logical representation of the network in the cloud. So, by creating an Azure Virtual Network, we can define our private IP address range on Azure, and also deploy different kinds of Azure resources. For Example - Azure virtual machine, App service environment, Integration service environment, etc.

Azure Vnet Capabilities

Following are the capabilities of the Azure Vnet:

Isolation and segmentation: To deploy resources such as virtual machines into virtual networks, they will be isolated from other resources. By putting the virtual machine into your virtual network, it cannot be reached from the Internet or other Azure resources unless we enable communication in between. We can also use subnets within virtual networks to further segment our resources within the network.

Communication with the Internet: All resources in a virtual network can communicate outbound to the Internet by default. But it needs to establish an inbound connection from the Internet. We can either use public IP or load balancers.

Communication between resources: Communication between the number of resources inside the virtual network or with other resources through service endpoints.

Communication with on-premises resources: By establishing either point to site VPN or site to site VPN or Express route, your workloads within Azure virtual network can seamlessly communicate with workloads within our on-premises data center.

There are lots of capabilities within the Azure virtual network that we can use to control the traffic.

Filter network traffic: We can use Network Security Groups, Application Security Group, Azure firewall, or third-party network virtual appliance to filter the traffic coming to the resources in the virtual network.

Route network traffic: We can route the network traffic using the routing tables, we can configure user-defined routes to route all the outbound traffic, let's say via a firewall.

Monitor network traffic: By network security groups and traffic analytics monitoring solution, you'll be able to carry out extensive monitoring on both inbound and outbound communications.

6. **Explain Azure VPN gateway.**

   Azure VPN Gateway connects your on-premises networks to Azure through Site-to-Site VPNs in a similar way that you set up and connect to a remote branch office. The connectivity is secure and uses the industry-standard protocols Internet Protocol Security (IPsec) and Internet Key Exchange (IKE).