**Sample Questions Set 2**

Q1. Why would you need Active Directory service in your Azure deployment?

What service does AWS IAM provides? (2 points).

Active directory is used to authenticate users and manage user access permissions to resources configured in Azure resource group(s). IAM is similar in that it authenticates users, sets granular access permissions to resources within the infrastructure using roles granted to users.

Q2. Explain how serverless computing can help organizations to cut cost in cloud deployments. Give an example of serverless computing service you have used in a public cloud environment. (3)

Organisations can minimise hardware requirements to run infrastructure, security is managed by the service provider minimising risk. Once configured, the infrastructure only needs monitoring and updating to meet organisational requirements.

GitHub Actions – running containers, to deploy, test project code base

Q3. “Cloud services more economical compared to traditional network infrastructures”. Provide two example scenarios when: (2)

1. The above statement is true
   1. global content distribution services, Netflix, YouTube – mirroring data
   2. subscription based cloud data storage services, service provides data backup from user’s devices, service mirrors user data across multiple data centres and user can subscribe to access storage on a as needed basis.
2. The above statement if false
   1. Small, local company that has all network infrastructure/hardware already available, technical skills to maintain hardware, security, and user access
   2. Specialised infrastructure, for government level services which have security requirements that cannot be managed economically in the cloud

Q4. You have setup your cloud infrastructure in such a way that (3)

1. the webserver server is in a public subnet where public IP is available,
2. the applications are on a private subnet having only private IP,
3. customers can connect to the application through the webserver and receive response.
4. However, the applications cannot initiate any connections to outside (e.g. to fetch system updates)

What service you need to install/enable to make sure the applications can update themselves? Would you put that in the public or private subnet?

Cloud providers have services available for subscribers to use to automatically apply security patches and updates to all cloud systems within their infrastructure. Webserver can be manually updated using apt; cron can be installed and a crontab configured to run the apt update and upgrade commands regularly automatically on the webserver.

Q5. Please explain what the following command will do. Briefly mention the roles the options *-v -d* and *-p* are doing. (3)

docker run -d -v my-data-volume:/data --name my-redis-container -p 6379:6379 redis

this command will create a new container using the latest version of redis, named ‘my-redis-container’ run it in the background `-d` detached mode.

`-v` will use the ` my-data-volume ` volume, map this to the /data directory inside the container making data in this file available to the container, data changes inside the container can be permanently stored after the container is stopped.

`-p` opens and maps redis’ default port 6379 from the host to the same port inside the container.