Introduction to DevOps - **Quiz 02**

Total Questions: 6. Attempt any 5.
Time: 20 minutes.

Marks Obtained	
	5

1. Which of the following are Container Orchestration Technologies:
    a. Kubernetes
    b. Docker Swarm
    c. ECS - Elastic Container Service (AWS)
    d. All of the above

2. In Kubernetes, the pods run on worker nodes. The control plane aka the Master nodes also runs the containers. Is this a best practice?
    a. True
    b. False

3. A Pod in Kubernetes is:
    a. A collection of containers.
    b. A single container
    c. None of the above

4. Describe the difference between a Kubernetes service and a Kubernetes deployment.

Deployments orchestrate the definition, creation, scaling of pod replicas.

Services act as a traffic gateway and load balancer, providing a stable network address for accessing your application running in Pods.

5. Your organization is considering adopting container orchestration for its microservices-based architecture. Discuss the benefits and challenges of using container orchestration for managing microservices compared to traditional deployment methods.

Benefits:

Scalability: Container orchestration allows for automatic scaling of microservices based on demand. This means your application can handle surges in traffic efficiently without any manual intervention.

Resource Optimization: You can scale individual microservices independently, allowing you to optimize resource allocation and cost efficiency.

Faster deployment and simplified management are other benefits.

Challenges:

Complexity: Setting up and managing container orchestration platforms requires additional expertise and time

Learning curve: Developers need to learn the platform to debug and manage applications.

6. A DevOps Engineer on your team has deployed a new application on Kubernetes, but external clients cannot access it. Upon inspection, you find that the service type is set to ClusterIP. What changes would you make to allow external access to the application?

Since the service type is set to **ClusterIP,** the application is only accessible within the Kubernetes cluster and cannot be reached by external clients.

To make the application accessible externally, you have two main options:

1. Change the service to NodePort. This is one solution but it is not ideal for the production environment.
2. Changing the service to LoadBalancer can also work to allow external access to your application on Kubernetes.