

Q1 Answers:

1) d

2) c

3) c

4) c

5) b

6) c

Q2 a) What is Virtualization? Explain different types...

Answer:

Virtualization is the creation of a virtual version of something...

Types of virtualization:

1. Hardware virtualization: Allows multiple...
2. Operating system virtualization: Multiple isolated...
3. Network virtualization: Creates virtual networks...
4. Storage virtualization: Combines multiple...
5. Desktop virtualization: Allows users to.

OR

Q2 c) Compare horizontal and vertical scaling...

Answer:

Feature	Horizontal Scaling	Vertical Scaling
Definition	Increases capacity by adding.	Increases capacity by upgrading.
Resource Addition	Add more servers.	Upgrade existing server.
Cost Efficiency	More cost-effective	Often expensive.

Q3 b) What do you mean by scaling a cloud infrastructure? Discuss...

Answer:

Scaling a cloud infrastructure means adjusting computing resources...

Scaling strategies for SaaS application:

1. Vertical Scaling: Increases resources of single server...

- Use case: Database or legacy services...
- Pros: Simple implementation...
- Cons: Limited by hardware...

2. Horizontal Scaling: Adds more servers...

- Use case: Web servers, stateless APIs...
- Pros: Highly scalable...
- Cons: Requires load balancing...

3. Auto-scaling: Automatically adjusts resources...

- Tools: AWS Auto Scaling, Azure...
- Pros: Cost-efficient...

Impact of poor capacity planning:

- Under-provisioning: Slow performance...
- Over-provisioning: Wasted costs...
- No auto-scaling: Unable to handle traffic spikes...