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Grade	8.00 out of 10.00 (80%)

Question 1

Incorrect

Mark 0.00 out of 1.00

Docker and Kubernetes are examples of technologies commonly associated with which level of virtualization?

- ○ a.   Application-level virtualization
- ○ b.   Programming-level virtualization
- ◉ c.   OS-level virtualization ✗
- ○ d.   Hypervisor-level virtualization

The correct answer is: Application-level virtualization

Question 2

Correct

Mark 1.00 out of 1.00

Which statement accurately describes the relationship between virtualization and operating systems (OS)?

- ◉ a.   Virtualization enables an OS to run on a virtual machine separate from the host OS. ✓
- ○ b.   Virtualization limits the provision capability and increases costs for computing environments.
- ○ c.   Virtualization allows multiple instances of the same OS to run concurrently.
- ○ d.   Virtualization restricts the execution of Windows OS on top of a Linux OS.

The correct answer is: Virtualization enables an OS to run on a virtual machine separate from the host OS.

Question 3

Correct

Mark 1.00 out of 1.00

How does virtual networking work in a virtualized environment?

- a. Each guest has its physical network interface card (NIC)
- b. Guests interact with a virtual network managed by specific software ✓
- c. Virtualization does not support networking capabilities
- d. Guests interact with a physical network without any intermediary software

The correct answer is: Guests interact with a virtual network managed by specific software

Question 4

Correct

Mark 1.00 out of 1.00

Which of the following is a benefit of virtualization?

- a. Reduced hardware costs ✓
- b. Limited scalability opportunities
- c. Increased network latency
- d. Decreased system performance

The correct answer is: Reduced hardware costs

Question 5

Correct

Mark 1.00 out of 1.00

In the virtualization reference model, what does the term "Guest" represent?

- a. The system component that interacts with the virtualization layer ✓
- b. The virtual machine manager (VMM)
- c. The virtual network managed by specific software
- d. The physical hardware hosting the virtual environment

The correct answer is: The system component that interacts with the virtualization layer

Question 6

Incorrect

Mark 0.00 out of 1.00

Which level of virtualization offers the most lightweight and efficient solution for deploying applications?

- ○ a. OS-level virtualization ✗
- ○ b. Hypervisor-level virtualization
- ○ c. Programming-level virtualization
- ○ d. Application-level virtualization

The correct answer is: Application-level virtualization

Question 7

Correct

Mark 1.00 out of 1.00

What is the purpose of a Virtual Machine Manager (VMM) in virtualized environments?

- ○ a. To interact directly with physical hardware
- ○ b. Restrict access to guest resources
- ○ c. To provide a transparent execution environment for the guest
- ● d. To control and manage virtual hardware for guests ✓

The correct answer is: To control and manage virtual hardware for guests

Question 8

Correct

Mark 1.00 out of 1.00

What is the purpose of VPNs in virtualized environments?

- ○ a. To reduce performance and computing capacity
- ○ b. To limit access to guest resources
- ○ c. To increase exposure to external threats
- ● d. To provide a secure connection between physical and virtual networks ✓

The correct answer is: To provide a secure connection between physical and virtual networks

Question 9

Correct

Mark 1.00 out of 1.00

How does virtualization contribute to increased security for guest operations?

○ a.   By limiting the transparency of the execution environment

○ b.   By granting unrestricted access to host resources

◉ c.   By hiding or protecting the host from the guest ✓

○ d.   By allowing untrusted code to execute freely

The correct answer is: By hiding or protecting the host from the guest

Question 10

Correct

Mark 1.00 out of 1.00

What is the fundamental role of virtualization in cloud computing, especially in IaaS?

○ a.   Reducing the customization options for computing environments.

○ b.   Creating secure and isolated execution environments for trusted applications only.

○ c.   Limiting the scalability of systems in cloud environments.

◉ d.   Allowing the creation of customizable and isolated execution environments. ✓

The correct answer is: Allowing the creation of customizable and isolated execution environments.