Question Paper Code	**13501**

B.E. / B.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2025

Sixth Semester

Computer Science and Engineering

20CSEL603 - VIRTUALIZATION TECHNOLOGIES

Regulations - 2020

Duration: 3 Hours   Max. Marks: 100

PART - A (MCQ) (10 × 1 = 10 Marks)
Answer ALL Questions

		Marks	*K – Level*	*CO*

1. What is the benefit of virtualization?   *1   K1   CO1*
   (a) Faster provisioning of applications and resources
   (b) Reduced capital and operating costs.
   (c) Increased IT productivity
   (d) All of Above

2. Which of the following is another name for the system virtual machine?   *1   K1   CO2*
   (a) Hardware Virtual Machine   (b) Software Virtual Machine
   (c) Real Machine   (d) None

3. Run time mapping from virtual to physical address is done by _____   *1   K1   CO3*
   (a) Memory management unit   (b) CPU   (c) PCI   (d) None of the mentioned

4. With which services does Red Hat Virtualization integrate?   *1   K1   CO3*
   (a)OpenStack OpenShif   (b) OpenStack Cinder   (c) CloudForms 4.2   (d) All of the above

5. How does VIOS improve I/O performance in a virtualized environment?   *1   K1   CO4*
   (a) By eliminating physical I/O devices.
   (b) By sharing I/O resources across multiple virtual machines.
   (c) By optimizing the use of physical I/O devices.
   (d) By increasing the size of virtual machines.

6. Which of the following is a key advantage of using VIOS?   *1   K1   CO5*
   (a) It eliminates the need for physical I/O devices.
   (b) It simplifies I/O management and reduces complexity.
   (c) It increases the cost of virtualized infrastructure.
   (d) It improves the performance of individual virtual machines.

7. Which of the following is an example of a cloud service that provides elasticity?   *1   K1   CO4*
   (a) A traditional on-premises server.
   (b) An Amazon Web Services (AWS) virtual machine.
   (c) A local hard drive.
   (d) A network printer.

8. Which type of migration involves moving a virtual machine from one host to another while the VM is powered on?   *1   K1   CO5*
   (a) Hot Migration   (b) Cold Migration   (c) Storage Migration   (d) vMotion

9. In desktop virtualization, what is the role of the host server?   *1   K1   CO5*
   (a) To run the client's operating system
   (b) To provide the virtualized desktop environment and applications
   (c) To connect to the internet
   (d) To store user data locally

10. Which of the following type of virtualization is also characteristic of cloud computing?   *1   K1   CO6*
    (a) Storage   (b) Application   (c) CPU   (d) All of the mentioned

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create   *13501*

PART - B (12 × 2 = 24 Marks)
Answer ALL Questions

11. What is the difference between Type 1 and Type 2 hypervisors?	2	K1	CO1
12. List out the common virtualization management tools.	2	K1	CO1
13. How long does the offer process take at VMware?	2	K1	CO2
14. What is hardware-assisted virtualization?	2	K1	CO2
15. How does storage virtualization fit within the cloud storage model?	2	K1	CO3
16. List out the components of Distributed File system.	2	K1	CO3
17. Define Clustering.	2	K1	CO4
18. Outline the Best Practices of Amazon EC2.	2	K2	CO4
19. Define Desktop Virtualization.	2	K1	CO5
20. Explain how to Improve Resource Utilization in Virtual Machine Provisioning?	2	K2	CO5
21. What is the difference between server and storage virtualization?	2	K1	CO6
22. Explain how can AWS help with virtualization and cloud computing?	2	K2	CO6

PART - C (6 × 11 = 66 Marks)
Answer ALL Questions

23. a) Explain the reasons for the adoption of server virtualization.	11	K2	CO1
OR			
b) Illustrate commercial virtualization examples and their contributions.	11	K2	CO1
24. a) Organize the Virtual Storage, partitioning along with its neat diagram.	11	K2	CO2
OR			
b) Compare the differences between para-virtualization and hardware-assisted virtualization.	11	K2	CO2
25. a) Highlight the role and Key Characteristics of a Monolithic Kernel with virtualization platforms.	11	K2	CO3
OR			
b) Demonstrate Centralized and Distributed File system and discuss the Challenges faced in Distributed Storage Systems.	11	K2	CO3
26. a) Organize Cold and hot migration and justify the choice between a hot versus cold migration.	11	K2	CO4
OR			
b) Explain Virtual machine based distributed computing with Commercial security issues with neat diagram.	11	K2	CO4
27. a) Explain in detail about how to set up a private cloud for an academic university using any one of the cloud environments.	11	K2	CO5
OR			
b) Distinguish Grid and Cloud with work flow with a real time example.	11	K2	CO5
28. a) Examine how to Get Started With Amazon EC2 (Elastic Compute Cloud) Linux Instances	11	K2	CO4
OR			
b) Compare Commercial examples Challenges and future trends of different Virtualization Computing.	11	K2	CO4

K1 – Remember; K2 – Understand; K3 – Apply; K4 – Analyze; K5 – Evaluate; K6 – Create

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