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Question Paper Code : 50455

B.E./B.Tech. DEGREE EXAMINATIONS, APRIL/MAY 2024.

Fifth/Sixth Semester

Computer Science and Engineering

CCS 372 — VIRTUALIZATION

(Common to Computer Science and Design/Computer Science and Engineering (Artificial Intelligence and Machine Learning)/Computer Science and Engineering (Cyber Security)/Computer and Communication Engineering/Artificial Intelligence and Data Science/Computer Science and Business Systems/Information Technology)

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Define Cloud Computing.
2. Mention the limitations of virtualization.
3. What is a Virtual Machine?
4. Write the advantages of using virtual machines.
5. Define VLAN.
6. List out the functions of network virtualization.
7. Mention the risks in storage virtualization.
8. Write about the different types of storage virtualization.
9. Define Microsoft Hyper-V.
10. Write briefly on the virtualization technologies offered by Google.

PART B — (5 × 13 = 65 marks)

11. (a) Explain in detail about types of hardware virtualization.

Or

- (b) What is Hypervisor? Explain in detail about the types of hypervisors.

12. (a) Explain in detail about types of server virtualization.

Or

- (b) Elucidate the types of Desktop Virtualization in detail.

13. (a) What is Network virtualization? List out the advantages and tools of the Network virtualization.

Or

- (b) Write short notes on:

(i) WAN Architecture (7)

(ii) WAN Virtualization. (6)

14. (a) Define memory virtualization and explain how it differs from physical memory. Discuss the key benefits of memory virtualization in terms of resource management and system performance.

Or

- (b) Write short notes on:

(i) Storage Area Network (5)

(ii) Network Attached Storage (4)

(iii) Redundant Array of Independent Disks. (4)

15. (a) Discuss the features and capabilities of VMWare virtualization technology. Highlight its role in enterprise environments and key benefits for organizations implementing VMWare.

Or

- (b) Explain the features and advantages of IBM PowerVM. Discuss its role in virtualizing resources on IBM's Power Systems.

PART C — (1 × 15 = 15 marks)

16. (a) Explain about virtualization for Linux and Windows and NT Platform. Design the process of Live Migration of VM from one host to another.

Or

- (b) Highlight the key points and identify the distinctions in different approaches of virtualization levels. Discuss their relative advantages, short comings and limitations. Also identify example systems implemented at each level.
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