Reg. No.: 20BCE1148

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VIT

Vellore Institute of Technology
(Deemed to be University under section 3 of UGC Act 1956)

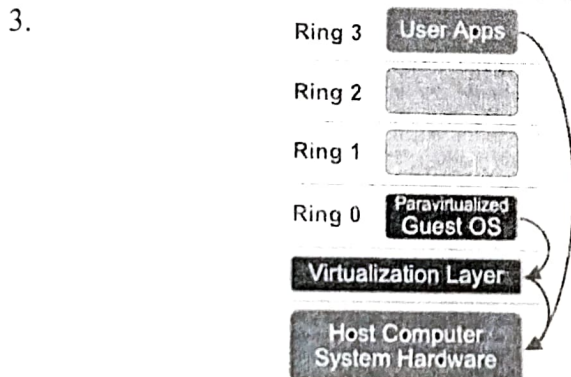## Continuous Assessment Test-I January 2023

Programme	: B.Tech CSE		Semester	: Winter 2022-23
Course	: Virtualization		Code	: CSE4011
			Class Nbr	: CH2022235000611, CH2022235000608
Faculty	: Dr. Anusooya G, Dr. Gayathri. R		Slot	: E2+TE2
Time	: 1 ½ Hours		Max. Marks	: 50

Answer all Questions

1. Assume that you have been hired as a system administrator for a start-up. As a system administrator you wish to go for server consolidation for reducing the infrastructure cost of the start-up. Suggest suitable virtualization architecture for implementing server consolidation. Clearly explain each layer of the architecture and how to implement the same. Also mention the limitations of virtualizing the start-up infrastructure. **10**

2. Aqua solutions are an IoT based firm focus on the services: drinking water quality and automated water level verification in large tanks. The number of employees and physical resources for Aqua solutions hinder its next level expansion. Hence they decided to adopt virtualization based solutions.
   i) Elaborate the effective role of VMs in handling the tasks allotted by Aqua solutions. (3 marks) **10**
   ii) If the allotted VM's for Aqua solution either fails or crashes, what could be the alternates? (3 marks)
   iii) If the allotted VM1 for Aqua solution reaches maximum CPU utilization, what could be the alternate solution? (4 marks)

3.

   10

   Identify the virtualization category from the above pictorial representation and explain its functionality and compare its benefits with hardware assisted approach.

4. BlueBus is the world leading bus online ticketing platform. It operates in 6 different countries, as they are the leading company they are planning to own the complete IT service. Explain various details of cloud taxonomy and as well elaborate the advantages and disadvantages of BlueBus. **10**

5. ABC is a leading Cloud Service Provider (CSP) interested in getting unique benchmark in providing uninterrupted services along with maximum profit.

    i)   Discuss your strategy to help the CSP with the considerations that needs to be focussed in achieving their deliverables. (5 Marks)

    ii)   Consider a cloud consumer requesting for banking solutions with varied services. Suggest a suitable service and deployment model for the consumer requirement like interactive platform for query handling and to ensure privacy features. (5 Marks)

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