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**PRESIDENCY UNIVERSITY**

**Bengaluru**

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| **End - Term Examinations – JANUARY 2025** |
| **Date:** 06 / 01/ 2025 **Time:** 09:30am – 12:30pm |

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| **School:** SOCSE | **Program:** B.Tech **-** CAI/CCS/CDV/IST/ISR/ISB/ISD/ISE | |
| **Course Code:** CSE3343 | **Course Name:** CLOUD COMPUTING | |
| **Semester**: V | **Max Marks**: 100 | **Weightage**: 50% |

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| **CO - Levels** | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** |
| **Marks** | **24** | **24** | **26** | **26** | **--** |

**Instructions:**

1. *Read all questions carefully and answer accordingly.*
2. *Do not write anything on the question paper other than roll number.*

**Part A**

|  |  |  |  |  |
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| **Answer ALL the Questions. Each question carries 2marks. 10Q x 2M=20M** | | | | |
| **1** | Define Cloud computing with an example. | **2 Marks** | **L1** | **CO1** |
| **2** | Explain Grid computing | **2 Marks** | **L2** | **CO1** |
| **3** | Difference between Type-1 and Type -2 Hypervisor | **2 Marks** | **L2** | **CO2** |
| **4** | Define virtualization | **2 Marks** | **L1** | **CO2** |
| **5** | What are the four common logical units of data storage? | **2 Marks** | **L2** | **CO3** |
| **6** | Describe the SSO Mechanism? | **2 Marks** | **L2** | **CO3** |
| **7** | Why cloud uses audit monitor? | **2 Marks** | **L2** | **CO3** |
| **8** | Explain Privileged Access Management (PAM) | **2 Marks** | **L2** | **CO4** |
| **9** | What are recent advancements in cloud computing | **2 Marks** | **L1** | **CO4** |
| **10** | Summarize the Cloud analyst tool | **2 Marks** | **L2** | **CO4** |

**Part B**

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| **Answer the Questions Total 80 Marks.** | | | | | |
| **11.** | **a** | Compare Infrastructure as a Service (IaaS), Platform as a Service (PaaS), Software as a Service (SaaS) with its advantages and disadvantages | **10 Marks** | **L2** | **CO1** |
| **b** | Outline the similarities and differences between grid computing and cloud computing. | **10 Marks** | **L2** | **CO1** |
| **Or** | | | | | |  | **Discuss all the deployment models in Cloud Computing in detail with examples.** |
| **12.** | **a** | Explain any two cloud providers which are used to develop Cloud Applications in detail. | **10 Marks** | **L2** | **CO1** |
| **b** | Describe the cloud deployment models and give a detailed note about them. | **10 Marks** | **L2** | **CO1** |
|  |  |  |  |  |  |
| **13.** | **a** | Elaborate each level of virtualization which are implemented in Cloud Computing with neat diagram. | **10 Marks** | **L2** | **CO2** |
|  | **b** | Describe the key components of a virtualization environment. | **5 Marks** | **L2** | **CO2** |
|  | **c** | Demonstrate the characteristics of Virtualized Environments with a neat sketch. | **5 Marks** | **L3** | **CO2** |
| **Or** | | | | | |
| **14.** | **a** | A small business is considering adopting virtualization to optimize its IT infrastructure. Illustrate all the types of virtualizations that could benefit the business, and explain how each type would improve efficiency. | **10 Marks** | **L2** | **CO2** |
|  | **b** | Illustrate the VMM structure and explain each of its components. | **5 Marks** | **L3** | **CO2** |
|  | **c** | Examine the concept of Server consolidation and virtual machine migration with diagram | **5 Marks** | **L3** | **CO2** |

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| **15.** | **a** | Your company has migrated critical applications to a cloud provider's platform. However, you've noticed performance degradation during peak usage hours, impacting user experience. How would you address this performance issue with the cloud provider based on the SLA? What metrics or performance targets outlined in the SLA would you reference, and what steps would you take to ensure compliance with the agreed-upon service levels? | **10 Marks** | **L2** | **CO3** |
|  | **b** | Explain the process by which an automated scaling listener dynamically adjusts resources based on demand? | **10 Marks** | **L2** | **CO3** |
| **Or** | | | | | |
| **16.** | **a** | Gayathri migrated her infrastructure to the cloud to take advantage of her scalability and flexibility. However, she had noticed a significant increase in cloud spending, and she want to ensure that resources are being utilized efficiently and costs are optimized. How would she implement a pay-per-use monitor to track and optimize cloud spending? | **10 Marks** | **L2** | **CO3** |
|  | **b** | The cloud usage monitor mechanism is a lightweight and autonomous software program responsible for collecting and processing IT resource usage. With neat diagram, explain all the three agents which are used to forward the collected usage data to a log database for post- processing and reporting purposes. | **10 Marks** | **L2** | **CO3** |

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| **17.** | **a** | Demonstrate about Zero Trust Security Model in Cloud Computing. Where such security model is required. Justify**.** | **10 Marks** | **L3** | **CO4** |
|  | **b** | Anusha who had startup to analyse videos. She needs a lot of storage as videos consume quite a bit of disk. Additionally, she discovered some very good tools to facilitate development in Windows but the deployment will be more efficiently handled in the Linux environment. Help her how to move her videos in docker and container in detail. | **10 Marks** | **L2** | **CO4** |
| **Or** | | | | | |
| **18.** | **a** | How would you use the MapReduce programming model to process and analyse the large dataset efficiently in a distributed computing environment and describe two primary tasks involved in MapReduce and also give example with Word Count problem | **10 Marks** | **L3** | **CO4** |
|  | **b** | Write a short note on Fog Computing and Dew Computing. | **10 Marks** | **L2** | **CO4** |

**\*\*\*\*\* BEST WISHES \*\*\*\*\***