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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:** SOIS | **Program:** BCV/BCG/BSD |
| **Course Code :** CSA2008 | **Course Name :**Essentials of 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** | **NA** |

**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 IaaS | **2 Marks** | **L1** | **CO1** |
| **2** | What are the main types of cloud deployment models? | **2 Marks** | **L1** | **CO1** |
| **3** | Define Application Virtualization | **2 Marks** | **L1** | **CO2** |
| **4** | What is server virtualization? | **2 Marks** | **L1** | **CO2** |
| **5** | What is the multitenant nature of SaaS solutions? | **2 Marks** | **L1** | **CO3** |
| **6** | List one benefit and one limitation of PaaS. | **2 Marks** | **L1** | **CO3** |
| **7** | Define PaaS. | **2 Marks** | **L1** | **CO3** |
| **8** | Define cloud-based block storage. | **2 Marks** | **L1** | **CO4** |
| **9** | List two primary methods to run a database in cloud. | **2 Marks** | **L1** | **CO4** |
| **10** | Define Fog Computing. | **2 Marks** | **L1** | **CO4** |

**Part B**

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| **Answer the Questions Total 80 Marks.** |
| **11.** | **a.** | Describe the different cloud deployment models and provide examples of scenarios where each model is most appropriate. | **10 Marks** | **L2** | **CO1** |
|  | **b.** | Analyze the different service models of cloud computing (IaaS, PaaS, and SaaS) and provide examples of use cases for each. | **10 Marks** | **L2** | **CO1** |
| **Or** |
| **12.** | **a.** | Analyze the benefits and limitations of cloud computing and provide examples where each is most significant. | **10 Marks** | **L2** | **CO1** |
|  | **b.** | Explain the concept of "Infrastructure as a Service" (IaaS) and discuss its benefits and challenges in a cloud environment. | **10 Marks** | **L2** | **CO1** |
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| **13.** | **a.** | Compare and contrast different virtualization tools and products available in the market for server, desktop, and storage virtualization. Provide examples of tools for each type and discuss their features and use cases. | **10 Marks** | **L2** | **CO2** |
|  | **b.** | Describe the fundamental concept of virtualization and its role as an enabling technology for cloud computing. Include an explanation of the different types of virtualization and provide examples of how each type benefits organizations. | **10 Marks** | **L2** | **CO2** |
| **Or** |
| **14.** | **a.** | Discuss the key tools and products available for virtualization. Compare their features and functionalities, and explain how they are used in different virtualization scenarios. Provide examples and discuss the advantages and limitations of each tool. | **10 Marks** | **L2** | **CO2** |
|  | **b.** | Describe the concept of desktop virtualization and its advantages for businesses. Discuss the different types of desktop virtualization and provide examples of popular tools used for this purpose. | **10 Marks** | **L2** | **CO2** |

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| **15.** | **a.** | Explain the concept of SaaS (Software as a Service) and discuss its multitenant nature. How does this architecture benefit both the service provider and the users? Additionally, provide an example of an Open SaaS solution, explaining how it enhances customization and integration. | **10 Marks** | **L3** | **CO3** |
|  | **b.** | Describe SOA with a neat diagram. Mention its advantages and disadvantages. | **10 Marks** | **L3** | **CO3** |
| **Or** |
| **16.** | **a.** | Discuss the working and benefits of Security as a Service (SECaaS) | **10 Marks** | **L3** | **CO3** |
|  | **b.** | Discuss the benefits and limitations of PaaS (Platform as a Service). How does PaaS support rapid application development, and what are the potential challenges faced by businesses using PaaS? | **10 Marks** | **L3** | **CO3** |

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| **17.** | **a.** | Explain utilization of cloud based NAS devices with a neat diagram. | **10 Marks** | **L3** | **CO4** |
|  | **b.** | Explain open source cloud in detail. | **10 Marks** | **L3** | **CO4** |
| **Or** |
| **18.** | **a.** | Define Cloud Simulator. Why CloudSim is used? Describe the benefits of CloudSim. | **10 Marks** | **L3** | **CO4** |
|  | **b.** | Explain Fog Computing architecture with a neat diagram and applications of fog computing. | **10 Marks** | **L3** | **CO4** |

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