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**PRESIDENCY UNIVERSITY**

**Bengaluru**

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| **End - Term Examinations – JANUARY 2025** |
| **Date:** 16 – 01- 2025 **Time:** 09:30 am – 12:30 pm |

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| **School:** SOCSE | **Program:** B Tech (CCS,CIT,CSG,CST,CDV,CBC,CSD,CBD) | |
| **Course Code:** CSE3125 | **Course Name:** Service Oriented Architecture | |
| **Semester**: V | **Max Marks**:100 | **Weightage**:50% |

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

**Instructions:**

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

**Part A**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Answer ALL the Questions. Each question carries 2marks. 10Q x 2M=20M** | | | | |
| **1** | Define XML namespace. | **2 Marks** | **L1** | **CO1** |
| **2** | Define XML Parser. | **2 Marks** | **L1** | **CO1** |
| **3** | List the advantages of XML. | **2 Marks** | **L1** | **CO1** |
| **4** | Define Distributed Internet Architecture. | **2 Marks** | **L1** | **CO2** |
| **5** | Define service contract in SOA. | **2 Marks** | **L1** | **CO2** |
| **6** | List the characteristics of contemporary SOA. | **2 Marks** | **L1** | **CO2** |
| **7** | Define orchestration. | **2 Marks** | **L1** | **CO3** |
| **8** | Define Webservice. | **2 Marks** | **L1** | **CO3** |
| **9** | Define service-oriented design. | **2 Marks** | **L1** | **CO4** |
| **10** | Define Actor attribute. | **2 Marks** | **L1** | **CO4** |

**Part B**

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| **Answer the Questions Total 80 Marks.** | | | | | |
| **11.** | **a.** | Compare DTD and XSD. | **10 Marks** | **L2** | **CO1** |
| **b.** | Design an XSD for an Employee Management System. The XML document should include employee details such as Employee ID, Name, Age, Gender, Department, and Salary. Each department may contain multiple employees. | **10 Marks** | **L3** | **CO1** |
| **Or** | | | | | |
| **12.** | **a.** | ESB Building Society,Ireland’s largest mutual building society, arrived an SOA model of delivery by accident , which had been doing integration and service works for years.The company opted for parsing method. Describe DOM parser with its components. | **10 Marks** | **L2** | **CO1** |
| **b.** | Create an XML document for managing inventory across multiple locations. | **10 Marks** | **L3** | **CO1** |
|  |  |  |  |  |  |
| **13.** | **a.** | Describe how SOA provides service layer abstraction. | **10 Marks** | **L2** | **CO2** |
| **b.** | Explain the concept of architecture with its types in SOA and describe how it applies to the design the e-commerce platform | **10 Marks** | **L3** | **CO2** |
| **Or** | | | | | |
| **14.** | **a.** | Compare SOA and DIA. | **10 Marks** | **L2** | **CO2** |
| **b.** | Explain the principle of "loose coupling" in SOA. Illustrate its significant for service interoperability and flexibility? | **10 Marks** | **L3** | **CO2** |

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| **15.** | **a.** | Define SOAP node. List and explain various types of SOAP nodes. | **10 Marks** | **L2** | **CO3** |
| **b.** | Define MEP in the context of web services and explain how it applies to the company’s order processing service. | **10 Marks** | **L3** | **CO3** |
| **Or** | | | | | |
| **16.** | **a.** | Describe the coordinator service composition. | **10 Marks** | **L2** | **CO3** |
| **b** | Define choreography .Design a simple choreography model for the order processing and shipment tracking services in the supply chain, showing how the services exchange information and collaborate autonomously to complete an orde. | **10 Marks** | **L3** | **CO3** |

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| **17.** | **a.** | Explain the steps involved in bottom-up strategy with a diagram. | **10 Marks** | **L2** | **CO4** |
| **b.** | Illustrate the SOA composition guidelines. | **10 Marks** | **L3** | **CO4** |
| **Or** | | | | | |
| **18.** | **a.** | You are a business analyst for a company that specializes in logistics and supply chain management. Recently, your company has decided to revamp its procurement process to improve efficiency and increase customer satisfaction. Design a business centric process for repeating this process. | **10 Marks** | **L2** | **CO4** |
| **b.** | Demonstrate the potential challenges in implementing XML encryption in the healthcare system, such as ensuring compliance with evolving security regulations and managing encryption keys, and propose solutions to address these challenges. | **10 Marks** | **L3** | **CO4** |

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