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**PRESIDENCY UNIVERSITY**

**Bengaluru**

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| **End - Term Examinations – JANUARY 2025** |
| **Date:** 13 – 01- 2025 **Time:** 09:30 am – 12:30 pm |

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| **School:** SOCSE | **Program:** B. Tech-COM/CEI/ISE/ISR/ISB | |
| **Course Code:** CSE2023 | **Course Name:** Data Warehousing and its application | |
| **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 Data warehouse. | **2 Marks** | **L1** | **CO1** |
| **2** | Describe the difference between dependent data mart and independent data mart in Data warehouse. | **2 Marks** | **L1** | **CO1** |
| **3** | What is the use of dimension table in data warehouses? | **2 Marks** | **L1** | **CO1** |
| **4** | What are ETL transformation types? | **2 Marks** | **L1** | **CO2** |
| **5** | Mention the primary purpose of data cleanup and transformation in data warehouse. | **2 Marks** | **L1** | **CO2** |
| **6** | List the different characteristics of data warehouse. | **2 Marks** | **L1** | **CO2** |
| **7** | Explain briefly about Roll-up and drill-down. | **2 Marks** | **L1** | **CO3** |
| **8** | What is the critical success factor in a data warehouse? | **2 Marks** | **L1** | **CO3** |
| **9** | Define Sequence data and its significance. | **2 Marks** | **L1** | **CO4** |
| **10** | What is the use of data pre-processing in real-time? | **2 Marks** | **L1** | **CO4** |

**Part B**

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| **Answer the Questions Total 80 Marks.** | | | | | |
| **11.** | **a.** | Explain the Top-down and Bottom-Up approach in data warehouse with suitable diagram. | **10 Marks** | **L2** | **CO1** |
|  | **b.** | Demonstrate the data warehouse architecture with a neat diagram. | **10 Marks** | **L3** | **CO1** |
| **or** | | | | | |
| **12.** | **a.** | Explain the generic characteristics of a data warehouse by describing their functions and illustrating their interrelationships with examples. | **10 Marks** | **L2** | **CO1** |
|  | **b.** | Demonstrate the 10 important Principles of Data warehousing. | **10 Marks** | **L3** | **CO1** |
|  |  |  |  |  |  |
| **13.** | **a.** | Describe the Sourcing, Acquisition, Cleanup and Transformation stages in data warehouse. | **20 Marks** | **L2** | **CO2** |
| **or** | | | | | |
| **14.** | **a.** | Assume that a data warehouse for Big University includes of the four dimensions student, course, semester, and instructor, and two metrics count and avg grade. At the lowest conceptual level (e.g., for a given student, course, semester, and instructor combination), the avg grade measure stores the actual course grade of the student. At higher conceptual levels, avg grade stores the average grade for the given combination. (a) Draw a snowflake schema diagram for the data warehouse. (b) Starting with the base cuboid [student, course, semester, instructor], what specific OLAP operations (e.g., roll-up from semester to year) should you perform in order to list the average grade of CS courses for each Big University student. (c) If each dimension has five levels (including all), such as “student < major < status < university < all”, how many cuboids will this cube contain (including the base and apex cuboids)? | **20 Marks** | **L2** | **CO2** |

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| **15.** | **a.** | Demonstrate the backup and recovery principle in data warehouse. | **20 Marks** | **L2** | **CO3** |
| **Or** | | | | | |
| **16.** | **a.** | Explain various attribution selection measures in classification with examples. | **20 Marks** | **L3** | **CO3** |

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| **17.** | **a.** | Construct the Knowledge discovery process, list the phases and indicate the activities in each phase. | **20 Marks** | **L3** | **CO4** |
| **Or** | | | | | |
| **18.** | **a.** | Apply various pre-processing methods and evaluate their effectiveness across different stages and types of data utilized in Data Mining. | **20 Marks** | **L2** | **CO4** |

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