Roll No.												

PRESIDENCY UNIVERSITY

BENGALURU

Mid - Term Examinations –October2025

Date: 09-10-2025 **Time:** 02.00pm to 03.30pm

School: SOCSE	**Program:** B.Tech	
Course Code : CSD3424	**Course Name:** Data Warehousing and its Application	
Semester: V	**Max Marks**: 50	**Weightage**: 25%

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

Instructions:

(i) Read all questions carefully and answer accordingly.

(ii) Do not write anything on the question paper other than roll number.

Part A

Answer ALL the Questions. Each question carries 2marks. 5Q x2M=10M

1	List the characteristics of Data Warehouse.	**2 Marks**	**L1**	**CO1**
2	Define Data Mart.	**2 Marks**	**L1**	**CO1**
3	List the three classes of users in Data Warehouse.	**2 Marks**	**L1**	**CO1**
4	Define Data Cube.	**2 Marks**	**L1**	**CO2**
5	List the categories of measures.	**2 Marks**	**L1**	**CO2**

Part B

Answer the Questions. Total Marks 40M

6.	**a.**	Explain the different types of Data Warehouse architecture.	**10Marks**	**L2**	**CO1**
		Or			
7.	**a.**	Illustrate the Technical consideration to build the Data Warehouse.	**10 Marks**	**L2**	**CO1**

8.	**a.**	Illustrate the implementation consideration to build the Data Warehouse.	**10Marks**	**L2**	**CO1**
		Or			
9.	**a.**	Explain different types of Data Mart and benefits of Data Warehouse.	**10 Marks**	**L2**	**CO1**

10.	**a.**	Illustrate star schema, snowflake schema and fact constellation schema with example.	**10 Marks**	**L2**	**CO2**
		Or			
11.	**a.**	Suppose that a data warehouse for Presidency University consists of the four dimensions student, course, semester, and instructor, and two measures 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)	**10 Marks**	**L2**	**CO2**

12.	**a.**	Suppose that a data warehouse consists of the four dimensions date, spectator, location, and game, and the two measures count and charge, where charge is the fare that a spectator pays when watching a game on a given date. Spectators may be students, adults, or seniors, with each category having its own charge rate. (a) Draw a star schema diagram for the data warehouse. (b) Starting with the base cuboid [date, spectator, location, game], what specific OLAP operations should you perform in order to list the total charge paid by student spectators at GM Place in 2010? (c) Bitmap indexing is useful in data warehousing. Taking this cube as an example, briefly discuss advantages and problems of using a bitmap index structure.	**10 Marks**	**L2**	**CO2**
		Or			
13.	**a.**	Illustrate index OLAP data by join indexing with an example.	**10 Marks**	**L2**	**CO2**