SRM Institute of Science and Technology
College of Engineering and Technology
School of Computing

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamilnadu

Academic Year: 2023-24 (EVEN) SET – 1(BATCH 1)

ANSWER KEY

Test: CLA-T1 **Date: 09-02-2024**
Course Code & Title: 18CSC303J Database Management Systems **Duration:** 50 Minutes
Year & Sem: III Year / VI Sem **Max. Marks:** 25

Course Articulation Matrix:

S. No.	Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
1	**CO1**	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
2	**CO2**	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-
3	**CO3**	3	3	3	-	-	-	-	-	-	-	-	-	2	2	-
4	**CO4**	3	3	3	2	-	-	-	-	-	-	-	-	2	2	-
5	**CO5**	3	2	2	-	-	-	-	-	-	-	-	-	2	2	-

Part - A
(10 x 1 = 10 Marks)

Instructions: Answer all

Q. No	Question	Marks	BL	CO	PO	PI Code
1	_____ Referred to as "data about data" a) DataWarehouse b) Data Tuple **c) Metadata** d) Redundant data **Answer : C**	**1**	**L1**	**1**	**1**	**1.6.1**
2	Which of the following is a correct insert statement? **a) INSERT INTO Employee VALUES ('suresh', 30000);** b) INSERT INTO Employee (name, salary) VALUE ('Suresh',30000); c) INSERT INTO Employee_details SELECTS name, dob FROM Exmployee; d) INSERT INTO Employee VALUES (name, dob, salary) ('Suresh', '16.03.1998', 30000); **Answer : a**	**1**	**L2**	**1**	**2**	**2.6.3**
3	_____ command is used to restore the data to the last save point. **a. Rollback** b. Commit c. Save Point d. GOTO **Answer : a**	**1**	**L1**	**1**	**1**	**1.6.1**
4	The language that handles requests for database easy access **a) TCL** b) DML c) DDL d) DQL **Answer : a**	**1**	**L1**	**1**	**1**	**1.7.1**
5	The _____ language used to retrieve information from the database by the end-user **a) Query**	**1**	**L1**	**1**	**1**	**1.7.1**

	b) Relational c) Structural d) Compiler **Answer : a**					
6	Which of the following is incorrect. a) Database management systems (DBMS) are suites of applications that facilitate database development and management. b) One way to build and manage databases is with a database management system (DBMS). c) The term "DBMS" refers to a collection of applications that facilitate the creation and management of databases. **d) A DBMS does not consists of a suite of applications that facilitate the creation and upkeep of databases.** **Answer :d**	**1**	**L1**	**1**	**2**	**2.6.3**
7	Which of the following refers to the level of data abstraction that describes exactly how the data actually stored? a) Conceptual Level **b) Physical Level** c) File Level d) Logical Level **Answer: b**	**1**	**L1**	**1**	**1**	**1.6.1**
8	A table can have only one a) Secondary key b) Alternate key c) Unique key **d) Primary key** **Answer: d**	**1**	**L1**	**1**	**1**	**1.7.1**
9	The view of total database content is a) Internal view b**) Conceptual view** c) Physical view d) External view **Answer : b**	**1**	**L1**	**1**	**1**	**1.6.1**
10	Collection of information stored in a database at a particular moment is: **a) Instance** b) Schema c) Data d) Metadata **Answer: a**	**1**	**L1**	**1**	**1**	**1.7.1**
Part B (1 X 7.5 = 7.5)						
11.a	List the major disadvantages of keeping organizational information in a file-processing system. **Answer:** **1. Data Redundancy:** It is possible that the same information may be duplicated in different files. This leads to data redundancy results in memory wastage. **2. Data Inconsistency:** Because of data redundancy, it is possible that data may not be in consistent state.	**7.5**	**L2**	**1**	**2**	**2.6.5**

	3. Difficulty in Accessing Data: Accessing data is not convenient and efficient in file processing system. **4. Limited Data Sharing:** Data are scattered in various files also different files may have different formats and these files may be stored in different folders may be of different departments. So, due to this data isolation, it is difficult to share data among different applications. **5. Integrity Problems:** Data integrity means that the data contained in the database in both correct and consistent for this purpose the data stored in database must satisfy correct and constraints. **6. Atomicity Problems:** Any operation on database must be atomic. This means, it must happen in it's entirely or not at all. **7. Concurrent Access Anomalies:** Multiple users are allowed to access data simultaneously this is for the sake of better performance and faster response. **8. Security Problems:** Database should be accessible to users in limited way. Each user should be allowed to access data concerning his requirements only.					
	OR					

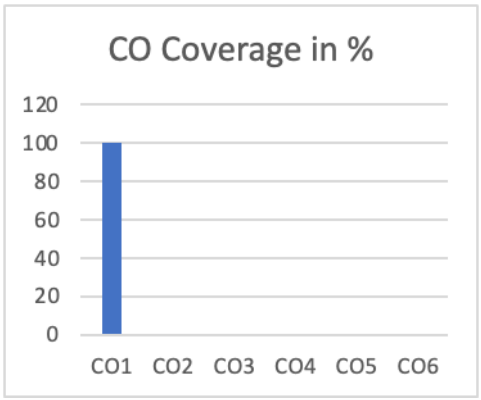
11.b	Demonstrate the categories of SQL with example.
	
	Data Definition Language (DDL): (2.5 Marks)
	• DDL is used for defining, altering, and deleting database structures.
	• Example:
	sqlCopy code
	`CREATE TABLE table_name ( column1 datatype, column2 datatype, ... );`
	Example:
	sqlCopy code
	`CREATE TABLE Students ( StudentID INT PRIMARY KEY, FirstName VARCHAR(50), LastName VARCHAR(50), Age INT );`
	Data Manipulation Language (DML): (2.5 Marks)
	• DML is used for manipulating data stored in the database.
	• Example (INSERT):
	sqlCopy code
	`INSERT INTO table_name (column1, column2, ...) VALUES (value1, value2, ...);`
	Example:
	sqlCopy code
	`INSERT INTO Students (StudentID, FirstName, LastName, Age) VALUES (1, 'John', 'Doe', 25);`
	• Example (UPDATE):
	sqlCopy code
	`UPDATE table_name SET column1 = value1,`
		7.5	**L2**	**1**	**1**	**1.7.1**

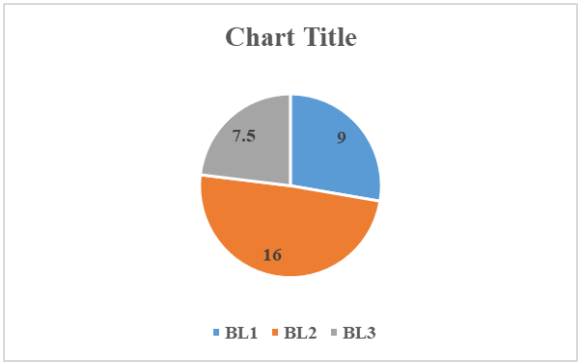
	column2 = value2 WHERE condition; Example: sqlCopy code UPDATE Students SET Age = 26 WHERE StudentID = 1; • Example (DELETE): sqlCopy code DELETE FROM table_name WHERE condition; Example: sqlCopy code DELETE FROM Students WHERE StudentID = 1; **Data Control Language (DCL): (2.5 Marks)** • DCL is used for controlling access to data within the database. • Example (GRANT): sqlCopy code GRANT privilege ON object TO user; Example: sqlCopy code GRANT SELECT, INSERT ON Students TO user1; • Example (REVOKE): sqlCopy code REVOKE privilege ON object FROM user; Example: sqlCopy code REVOKE SELECT, INSERT ON Students FROM user1; These categories cover the fundamental aspects of SQL and provide the necessary tools to manage and interact with relational databases.					
	Part C (1 X 7.5 = 7.5)					
12	The DB Enterprise needs an application that would generate the retrieval of information in the web page. Describe the data model which falls under this category. For a web application that generates the retrieval of information from a database, you would need a suitable data model to represent the structure and relationships of the data. A common approach is to use a relational data model, which organizes data into tables with predefined relationships between them. Here's a high-level description of a relational data model for a hypothetical scenario where a web application retrieves information from a database: **Relational Model:** **Entities:** • Identify the main entities that the application will manage. For example, in an e-commerce application, you might have entities like **Product**, **Customer**, and **Order**. **Attributes:** • Define attributes for each entity, representing the properties or characteristics of the entities. For a **Product** entity, attributes might include **ProductID**, **ProductName**, **Price**, etc.	**7.5**	**L3**	**1**	**3**	**3.6.2**

	Relationships: • Establish relationships between entities. For instance, an **Order** entity might have a relationship with both **Customer** and **Product**. This reflects that an order is associated with a specific customer and contains one or more products. **Primary Keys:** • Identify primary keys for each entity. Primary keys are unique identifiers for each record in a table. For example, **ProductID** might be the primary key for the **Product** table. **Foreign Keys:** • Use foreign keys to establish relationships between tables. For instance, the **Order** table might have foreign keys like **CustomerID** and **ProductID** referring to the primary keys in the **Customer** and **Product** tables, respectively. **Normalization:** • Apply normalization techniques to ensure the database is well-structured and minimize redundancy. Normalization involves breaking down tables into smaller ones and establishing relationships to reduce data duplication. For example, the **Product**, **Customer**, **Order**, and **OrderItem** tables are interconnected through primary and foreign keys. This is a simplified example, and the actual data model would depend on the specific requirements of your application. The defined data model serves as the foundation for creating the database schema and designing queries to retrieve information for the web application.					

***Program Indicators are available separately for Computer Science and Engineering in AICTE examination reforms policy.**

Course Outcome (CO) and Bloom's level (BL) Coverage in Questions





Approved by the Audit Professor/Course Coordinator