**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY**

Ramapuram Campus, Bharathi Salai, Ramapuram, Chennai - 600089

**FACULTY OF ENGINEERING AND TECHNOLOGY**

# **DEPARTMENT OFCOMPUTER SCIENCE AND ENGINEERING**

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**QUESTIONBANK**

| **Degree & Branch** | **: B.TECH- CSE** |
| --- | --- |
| **Semester & Year** | **: : IV/II** |
| **Sub Code & Subject Name** | **: 21CSC205P- Database Management Systems** |
| **Regulation** | **: 2021** |
| **Academic Year** | **: 2023-2024** |

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**

**QUESTION BANK**

**SUBJECT : Subject Code: 21CSC205P -** Database Management Systems

**SEM/YEAR: VI/III**

**Course Outcomes**

***CO3:* Implement the database Structure with SQL**

| **Q.**  **No.** | **Questions** | **Course Outcome** | | **Competence**  **BT Level** | |
| --- | --- | --- | --- | --- | --- |
| **1** | **Full form of DDL is –**   1. Data Describe Language 2. Definition Data Language 3. Data Definition Language 4. Data Distinct Language | CO3 | | BT1 | |
| **2** | **Commands that comes under DDL is/are –**   1. CREATE 2. DROP 3. TRUNCATE 4. All of the above | CO3 | | BT2 | |
| **3** | **Full form of DML is –**   1. Data Multiplication Language 2. Data MaLanguagenipulation 3. Data Modify Language 4. Data Mapping Language | CO3 | | BT1 | |
| **4** | **Command that comes under DML is/are –**   1. ROLLBACK 2. GRANT 3. UPDATE 4. All of the above | CO3 | | BT1 | |
| **5** | **Select the correct statement.**   1. With the DDL commands, any structural changes can be made to the table, including creation, deletion, and alteration. 2. With the DML commands, any structural changes can be made to the table, including creation, deletion, and alteration. 3. With the DCL commands, any structural changes can be made to the table, including creation, deletion, and alteration. 4. With the TCL commands, any structural changes can be made to the table, including creation, deletion, and alteration. | CO3 | | BT1 | |
| **6** | **Full form of DCL is -**   1. Data Control Language 2. Data Commit Language 3. Data Common Language 4. Data Concatenate Language | CO3 | | BT1 | |
| **7** | **Full form of TCL is -**   1. Transaction Common Language 2. Transaction Commit Language 3. Transaction Concatenate Language 4. Transaction Control Language | CO3 | | BT2 | |
| **8** | **What is TRUE about SAVEPOINT?**   1. Following the completion of a transaction, it must be executed to save all the operations performed in the transaction. 2. A transaction can be rolled back to its last saved state. 3. A specific part of a transaction can be given a name 4. None of the above | CO3 | | BT3 | |
| **9** | **Following the completion of a transaction, it must be executed to save all the operations performed in the transaction. Here we are talking about which command?**   1. REVOKE 2. COMMIT 3. ROLLBACK 4. SAVE | CO3 | | BT1 | |
| **10** | **Difference between GRAND & REVOKE command is/are?**   1. The GRANT command can be used to grant a user access to databases and tables whereas The REVOKE command can be used to revoke all access privileges already assigned to the user. 2. The REVOKE command can be used to grant a user access to databases and tables whereas The GRANT command can be used to revoke all access privileges already assigned to the user. 3. A transaction can be rolled back to its last saved state. 4. None of the above | CO3 | | BT1 | |
| **11** | **The table records can be retrieved using which command?**   1. RETRIEVE 2. SELECT 3. CREATE 4. ALTER | CO3 | | BT1 | |
| **12** | **Which command will remove the records from the table, but not affect the structure of the table?**   1. REMOVE 2. DELETE 3. DROP 4. TRUNCATE | CO3 | | BT2 | |
| **13** | **The records and structure of a table may be removed or deleted from the database using which command?**   1. REMOVE 2. DELETE 3. DROP 4. TRUNCATE | CO3 | | BT1 | |
| **14** | **1. Constraints regarding integrity are \_\_\_ that must be followed.**   1. Data 2. Rules 3. Tables 4. None | CO3 | | BT1 | |
| **15** | Which of the following is TRUE about TCL?Transactions can be saved to the database and rolled back with the help of TCL commands in SQL.There will be certain privileges that each user has; consequently, the data can be accessed by them using TCL.Our data is stored in a table that is described by the schema, thus TCL commands deal with the schema. SQL TCL commands can be used to perform any kind of retrieval or manipulation of the data present in SQL tables. | CO3 | | BT1 | |
| **16** | **A \_\_\_ constraint ensures that insertions, updates, and other processes are performed in a manner that does not compromise \_\_\_.**   1. Data Composition 2. Data Interval 3. Data Integrity 4. Data Insertion | CO3 | | BT1 | |
| **17** | **\_\_\_\_ value is returned by the SQL Aggregate functions?**   1. Single 2. Twice 3. NULL 4. Infinite | CO3 | | BT1 | |
| **18** | **What does AVG() function returns?**   1. First value of the column 2. Last value of the column 3. Sum of rows of the table 4. Average value of the column | CO3 | | BT1 | |
| **19** | **Which function returns the largest value of the column?**   1. MIN() 2. MAX() 3. LARGE() 4. AVG() | CO3 | | BT1 | |
| **20** | **. Data constraint that expresses how many entities are related through a relationship set is referred to as a \_\_\_.**   1. Data Constraint 2. Relationship Constraint 3. Entity Constraint 4. Mapping Constraint | CO3 | | BT1 | |
| **21** | **What is TRUE about NOT NULL Constraint?**   1. In columns that are subject to the NOT NULL constraint, duplicate values are not allowed. 2. When a table's column is declared as NOT NULL, no record in the table can have an empty value for that column. 3. By applying the NOT NULL constraint, we will always ensure that the column contains a unique value and won't allow nulls. 4. The value will first be checked for certain conditions before inserting it into the column when a NOT NULL constraint applies to a column in the table. | CO3 | | BT1 | |
| **22** | **You can also \_\_\_\_\_\_\_ the existing tables by using the UNIQUE constraint.**   1. Change 2. Delete 3. Modify 4. Drop | CO3 | | BT1 | |
| **23** | **A Sub query is an SQL expression that is placed \_\_\_\_\_\_\_\_ another SQL statement.**   1. Before 2. After 3. Inside 4. Outside | CO3 | | BT1 | |
| **24** | **Which of the following clause cannot be used in SQL sub queries?**   1. GROUP BY 2. ORDER BY 3. DELETE 4. FROM | CO3 | | BT1 | |
| **25** | **In order to prevent multiple records from being returned by the sub query, \_\_\_\_\_\_\_ must be used before the sub query.**   1. Many Value Operators 2. Multiple Value Operators 3. Single Value Operator 4. Unique Value Operator | CO3 | | BT1 | |
| **26** | Which of the following exception is globally available?  1. Internal, User-defined and Pre-defined exceptions 2. Pre-defined exceptions only 3. Internal and pre-defined exceptions 4. User defined exceptions only | CO3 | | BT1 | |
| **27** | Where are exceptions used in PL/SQL?  1. Only in an anonymous block 2. Only in the body of a subprogram 3. Only in a package 4. Only in an anonymous block and the body of a subprogram | CO3 | | BT1 | |
| **28** | Which of the following function gives the error code of the recently occurred exception?  1. SQLERRCODE 2. SQLERROR 3. ERRCODE 4. SQLCODE | CO3 | | BT1 | |
| **29** | Can the PL/SQL block process more than one exception at a time?  1. Yes 2. No 3. Depends upon | CO3 | | BT1 | |
| **30** | What is the output for   SELECT SAL INTO V\_SAL FROM EMP;  1. All rows selected 2. First record only printed 3. Error as “exact fetch returns more than requested number of rows” 4. All columns selected | CO3 | | BT1 | |
| **31** | Point out the correct statement. A) Triggers are database object B) Three types of triggers are present in SQL Server C) A DDL trigger is an action programmed to execute when a data manipulation language (DML) event occurs in the database server D) ) Two types of triggers are present in SQL Server | CO3 | | BT1 | |
| **32** | How many types of triggers are present in SQL Server? a) 4 b) 5 c) 8 d) 9 | CO3 | | BT1 | |
| **33** | AFTER trigger in SQL Server can be applied to \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ a) Table b) Views c) Table and Views d) Function | CO3 | | BT1 | |
| **34** | Which of the following is not a limitation of view? a) ORDER BY Does Not Work b) Index Created on View Used Often c) Cross Database Queries Not Allowed in Indexed View d) Adding Column is Expensive by Joining Table Outside View | CO3 | | BT1 | |
| **35** | Point out the wrong statement. a) We can have an INSTEAD OF insert/update/delete trigger on a table that successfully executed b) DML Triggers are used to evaluate data after data manipulation using DML statements c) INSTEAD OF triggers cause their source DML operation to skip d) AFTER triggers cause their source DML operation to skip | CO3 | | BT1 | |
| **36** | SQL Server allows for Transact-SQL stored procedures, triggers, and batches to refer to tables that don't exist at compile time. This ability is called?  A. Indeferred Name Resolution B. Deferred Name Permissions C. Deferred Name Resolution D. Indeferred Name Permissions | CO3 | | BT3 | |
| **37** | Temporary stored procedures are stored in \_\_\_\_\_\_\_\_\_ database. a) Master b) Model c) User specific d) Tempdb | CO3 | | BT3 | |
| **38** | What command use to see the errors from a recently created stored procedure?  1. SHOW MISTAKES; 2. DISPLAY MISTAKES; 3. DISPLAY ERRORS; 4. SHOW ERRORS; | CO3 | | BT2 | |
| **39** | In the PL/SQL, the package specification contains ....................... declarations.  A) Public  B) Private  C) Friend  D) Protected | CO3 | | BT2 | |
| **40** | ....................... contain a pointer that keeps track of current row being accessed, which enables your program to process the rows at a time.  A) Tracker  B) Cursor  C) Accesser  D) Trigger | CO3 | | BT2 | |
| **41** | ................. provide a way for your program to select multiple rows of data from the database and then process each row individually.  A) PL/SQL Cursors  B) PL/SQL Trigger  C) PL/SQL Select  D) PL/SQL Process | CO3 | | BT2 | |
| **42** | Which option in view is to ensure that all UPDATE and INSERTs satisfy the condition(s) in the view definition?  A. Uncheck B. With Check C. Check D. With | CO3 | | BT3 | |
| **43** | \_\_\_\_\_\_\_ views help to keep the database up-to-date.  A. View materialization B. View isolation C. View updating D. View maintenance | CO3 | | BT3 | |
| **44** | Temporary stored procedures are stored in \_\_\_\_\_\_\_\_\_ database. a) Master b) Model c) User specific d) Tempdb | CO3 | | BT2 | |
| **45** | Which of the following exception raised when an arithmetic, conversion, truncation, or size constraint error occurs?  A. ZERO\_DIVIDE B. VALUE\_ERROR C. TOO\_MANY\_ROWS D. SELF\_IS\_NULL | CO3 | | BT2 | |
| **46** | Which of the following statements accurately describes an INNER JOIN in SQL?  A) Returns only matching rows from both tables.  B) Returns all rows from both tables, with non-matching rows filled with NULL values.  C) Returns all rows from the left table and matching rows from the right table.  D) Returns all rows from the right table and matching rows from the left table. | CO3 | | BT3 | |
| **47** | When creating a function, in which section will you typically find a return key word?  A. Header Only B. Declarative C. Executable and Header D. Executable and exception handling | CO3 | | BT3 | |
| **48** | Which JOIN type is suitable for returning all rows from both tables, regardless of whether they have matching rows in the other table?  A) INNER JOIN  B) LEFT JOIN  C) RIGHT JOIN  D) FULL OUTER JOIN | CO3 | | BT2 | |
| **49** | The variables in the triggers are declared using a) – b) @ c) / d) /@ | CO3 | | BT2 | |
| **50** | Triggers \_\_\_\_\_\_\_\_ enabled or disabled a) Can be b) Cannot be c) Ought to be d) Always | CO4 | | BT3 | |
| **PART B (4 Marks)** | | | | | |
| **1** | **What is SQL?**  **SQL** is a database language designed for the retrieval and management of data in a relational database.  SQL is the standard language for database management. All the RDBMS systems like MySQL, MS Access, Oracle, Sybase, Postgres, and SQL Server use SQL as their standard database language. SQL programming language uses various commands for different operations. We will learn about the DCL, TCL, DQL, DDL and DML commands in SQL with examples. | | CO3 | | BT1 |
| **2** | **What is DDL?**  Data Definition Language helps you to define the database structure or schema. Let’s learn about DDL commands with syntax. **CREATE** **DROP** **ALTER** **TRUNCATE:** | | CO3 | | BT1 |
| **3** | **What is Data Manipulation Language?**  Data Manipulation Language (DML) allows you to modify the database instance by inserting, modifying, and deleting its data. It is responsible for performing all types of data modification in a database.  There are three basic constructs which allow database program and user to enter data and information are:  Here are some important DML commands in SQL:   * INSERT * UPDATE * DELETE | | CO3 | | BT1 |
| **4** | **What is DCL?**  DCL (Data Control Language) includes commands like GRANT and REVOKE, which are useful to give “rights & permissions.” Other permission controls parameters of the database system. **Examples of DCL commands:**  Commands that come under DCL:   * Grant * Revoke | | CO3 | | BT2 |
| **5** | **Explain the concept of a subquery in DBMS. What is its purpose, and how does it differ from a regular query?**  A subquery, also known as a nested query or inner query, is a query nested within another SQL statement, such as SELECT, INSERT, UPDATE, or DELETE. The purpose of a subquery is to allow for more complex and dynamic data retrieval or manipulation by performing a query within the context of another query.  The primary difference between a regular query and a subquery lies in their usage and context within SQL statements:   1. **Purpose and Context:** 2. **Result Usage:** 3. **Data Dependency:** 4. **Complexity and Nesting:** | | CO3 | | BT1 |
| **6** | **What are SQL Constraints?**  SQL Constraints are used to specify the rules for the data in a table. These are used to limit which type of data must be stored in the database, and aims to increase the accuracy and reliability of the data stored in the database.  So, constraints make sure that there is no violation in terms of a transaction of the data, yet there is any violation found; the action gets terminated.  *There are two types of constraints which can be applied:*   1. **Column-level constraints** – These constraints are applied to a single column 2. **Table-level constraints** – These constraints are the application to the complete table | | CO3 | | BT2 |
| **7** | **Discuss the advantages and disadvantages of using triggers in a database system.**  **Advantages:**   1. Data Integrity Enforcement 2. Business Rule Enforcement 3. Automatic Audit Trail 4. Cascade Actions 5. Complex Data Transformation 6. Event-Driven Processing   **Disadvantages:**   1. Hidden Logic 2. Performance Overhead 3. Debugging Complexity 4. Concurrency Issues 5. Dependency Management 6. Security Risks | | CO3 | | BT2 |
| **8** | **List out Scalar functions:**  These functions are based on user input; these too returns single value.   * 1. UCASE ()   2. LCASE ()   3. MID ()   4. LEN ()   5. ROUND ()   6. NOW ()   7. FORMAT () | | CO3 | | BT2 |
| **9** | Write about trigger.  A trigger is **a special type of stored procedure that automatically runs when an event occurs in the database server**. DML triggers run when a user tries to modify data through a data manipulation language (DML) event.  DML events are INSERT, UPDATE, or DELETE statements on a table or view. | | CO3 | | BT1 |
| **10** | Write an example for nested queries.  A nested query is a query that has another query embedded within it. The embedded query is called a subquery.  A subquery typically appears within the WHERE clause of a query. It can sometimes appear in the FROM clause or HAVING clause.  Let’s learn about nested queries with the help of an example.  Find the names of employee who have regno=103  The query is as follows −  select E.ename from employee E where E.eid IN (select S.eid from salary S where S.regno=103); | | CO3 | | BT1 |
| **11** | what are the transaction control language commands?   * COMMIT. This command is used to make a transaction permanent in a database. * ROLLBACK. * SAVEPOINT. | | CO3 | | BT2 |
| **PART C (12 Marks)** | | | | | |
| **1** | Discuss the components of a trigger in PL/SQL and their significance. | | CO3 | | BT2 |
| **2** | Explain in detail about constraints. | | CO3 | | BT2 |
| **3** | Explain the concept of joins in DBMS. What are the different types of joins, and how are they used in SQL queries? Provide examples. | | CO3 | | BT2 |
| **4** | Explain in detail about Sub Queries, correlated sub queries | | CO3 | | BT2 |
| **5** | Explain in detail about Nested Queries, Views and its Types |  | CO3 | | BT2 |
| **6** | How do you handle exceptions related to cursors in PL/SQL? Discuss error handling techniques. | | CO3 | | BT2 |
| **7** | Explain the concept of set operations in DBMS. What are the fundamental set operations supported in SQL, and how do they manipulate data sets? | | CO3 | | BT1 |