SRM INSTITUTE OF SCIENCE AND TECHNOLOGY

Ramapuram Campus, Bharathi Salai, Ramapuram, Chennai - 600089

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OFCOMPUTER SCIENCE AND ENGINEERING

QUESTIONBANK

Degree & Branch	**: B.TECH- CSE**
Semester	**: III/VI**
Sub Code & Subject Name	**: 18CSC303J- DATABASE MANAGEMENT SYSTEMS**
Regulation	**: 2018**
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QUESTION BANK

SUBJECT : Subject Code: 18CSC303J - Subject Name : Database Management Systems

SEM/YEAR: VI/III

Course Outcomes

CO1: **Acquire the knowledge on DBMS Architecture and Languages**

CO2:

CO3:

CO4:

CO5:

UNIT I				
What is Database Management System- Advantage of DBMS over File Processing System - Introduction and applications of DBMS- Purpose of database system- Views of data- Database system Architecture- Data Independence- The evolution of Data Models- Degrees of Data Abstraction- Database Users and DBA- Database Languages				
PART-A (Multiple Choice Questions)				
Q. No.	**Questions**	**Course Outcome**	**Competence BT Level**	**Page Number**
1	**In any hierarchy of data organization, what is the smallest entity to be processed as a single unit is called?** **(A) Data field** (B) Data record (C) Data file (D) Database	CO1	BT1	
2	**There are certain packages that allow people to define data items, place these items in particular records, combine the records into designated files and then manipulate and retrieve the stored data. What are they called?** (A) Data storage system **(B) Database management system (DBMS)** (C) Batch processing system (D) Data communication package	CO1	BT1	1

3	**Which of the following is true?- A database management system** (A) Allows simultaneous access to multiple files (B) Can do more than a record management system (C) Is a collection of programs for managing data in a single file **(D) None of the above**	CO1	BT1	1, 31
4	**Which of the following in not a function of DBA?** **(A) Network Maintenance** (B) Routine Maintenance (C) Schema Definition (D) Authorization for data access	CO1	BT1	28
5	**What refers to the correctness and completeness of the data in a database?** (A) Data security **(B) Data integrity** (C) Data constraint (D) Data independence	CO1	BT1	
6	**Which of the following is a serious problem of file management systems?** (A) Difficult to update (B) Lack of data independence (C) Data redundancy **(D) All of the above**	CO1	BT1	4
7	**Which of the following is Database Language?** (A) Data Definition Language (B) Data Manipulation Language (C) Query Language **(D) All of the above**	CO1	BT1	
8	**Who created the first DBMS?** (A) Edgar Frank Codd **(B) Charles Bachman** (C) Charles Babbage (D) Sharon B. Codd	CO1	BT1	
9	**What is scheme describes?** (A) Data elements (B) Records and files (C) Record relationships **(D) All of the above**	CO1	BT1	
10	**Which of the following is/are disadvantages of Database Management System?** (A) Cost of Hardware and Software (B) Reduce data redundancy (C) Remove data inconsistency **a) A** b) B c) C d) B & C	CO1	BT1	

11	**In the architecture of a database system what is the external level _____** (A) Physical level (B) Logical level (C) Conceptual level **(D) View level**	CO1	BT1	7
12	**What is Data independence?** (A) Data is defined separately and not included in programs (B) Programs are not dependent on the physical attributes of data (C) Programs are not dependent on the logical attributes of data (D) **Both programs are not dependent on the physical attributes of data & programs are not dependent on the logical attributes of data**	CO1	BT1	
13	**What is Concurrent access?** (a) Accessing system by only single user at a time (b) Accessing System by more than one user one by one **(c) Accessing system by more than one user at a time (simultaneously)** (d) Accessing system by single only	CO1	BT1	5
14	**Concurrency control is important for which of the following reasons?** **(A) To ensure data integrity when updates occur to the database in a multiuser environment** (B) To ensure data integrity when updates occur to the database in a single-user environment (C) To ensure data integrity while reading data occurs to the database in a multiuser environment (D) To ensure data integrity while reading data occurs to the database in a single-user environment	CO1	BT1	6
15	**What is the main purpose of DBMS is to provide _____ view of data to user.** **(A) Abstract** (B) Complete (C) Partial (D) None of these	CO1	BT1	
16	**_____ means to hide certain details of how data is stored and maintain.** (A) Data isolation (B) Data integrity **(C) Data Abstraction** (D) Data binding	CO1	BT1	6

17	**How many levels in data abstraction?** (A) 2 (B) 4 (C) 1 **(D) 3**	CO1	BT1	6
18	**In data abstraction which is lowest level of abstraction?** (A) Conceptual level (B) View level **(C) Physical level** (D) None of these	CO1	BT1	6
19	**What is also called as Hierarchical model?** **a. Tree structure** **b.** Plex Structure **c.** Normalize Structure **d.** Table Structure	CO1	BT1	
20	**"What data is stored ?" is described by _____ level of abstraction in DBMS.** **a.** Physical **b.** View **c. Conceptual** **d.** None of the above	CO1	BT1	6
21	**Which of the following represents a relationship among a set of values?** **a. A Row** **b.** A Table **c.** A Field **d.** A Column	CO1	BT1	
22	**If user doesn't know anything about the complexity of database application then that user is called as _____.** **a. Naive User** **b.** Database Manager **c.** Database Operator **d.** Database Administrator	CO1	BT1	24
23	**Data Model is collection of conceptual tools for describing** **a.** Data **b.** Data Schema Consistency **c.** Constraints **d. All of these**	CO1	BT1	8,9

24	**Which of the following is example of Object based logical model ?** **a. Entity Relationship Model** **b.** Hierarchical Model **c.** Relational Model **d.** Network Model	CO1	BT1	
25	**In enterprise data modeling, which is incorrect?** **a.** You review current systems. **b. You implement the new database.** **c.** You describe the data needed at a very high level of abstractio **d.** You plan one or more database development projects.	CO1	BT1	
26	**Which is true for the following statement?: Ability to modify schema of database in one level without affecting the schema definition in higher level is called as _____.** **a. Data Independence** **b.** Data Isolation **c.** Data Migration **d.** Data Abstraction	CO1	BT1	
27	**Logical Data independence is ability to modify _____ without causing application program to rewrite.** **a.** Physical Schema **b. Logical Schema** **c.** Conceptual Schema **d.** None of the above	CO1		8
28	**If both data and database administration exist in an organization, the database administrator is responsible for which of the following?** (A) Data modeling **(B) Database design** (C) Meta data (D) All the above	CO1	BT1	27,28
29	_____ refers to the correctness and completeness of the data in a database? **a.** Data security **b. Data integrity** **c.** Data constraint **d.** Data independence	CO1		

30	**Which of the following is not Modification of the Database?** **a.** Deletion **b.** Insertion **c. Sorting** **d.** Updating	CO1	BT1	
31	**An entity set that does not have sufficient attributes to form a primary key is a** (A) strong entity set. (B) **weak entity set.** (C) simple entity set. (D) primary entity set.	CO1		45,46
32	**The language which has recently become the defacto standard for interfacing application programs with relational database system is** (A) Oracle. (B) **SQL.** (C) DBase. (D) 4GL.	CO1		
33	**A subschema expresses** (A) the logical view. (B) the physical view. (C) **the external view.** (D) all of the above.	CO1		8
34	**Which one of the following statements is false?** (A) The data dictionary is normally maintained by the database administrator. (B) **Data elements in the database can be modified by changing the data dictionary.** (C) The data dictionary contains the name and description of each data element. (D) A data dictionary is a tool used exclusively by the database administrator.	CO1		12
35	**Select the correct statement.** **A. With the DDL commands, any structural changes can be made to the table, including creation, deletion, and alteration.** B. With the DML commands, any structural changes can be made to the table, including creation, deletion, and alteration. C. With the DCL commands, any structural changes can be made to the table, including creation, deletion, and alteration. D. With the TCL commands, any structural changes can be made to the table, including creation, deletion, and alteration.	CO1		10,11

36	The three language components of a database management system (DBMS) like DDL, DCL, DML. Two different types of people (users and practitioners) are concerned with them. Which of them do users of a DB A. DDL B. **DML** C. DDL And DCL D. DCL And DML	CO1		10
37	Which of the following statement removes database including its related components? A**. DROP DATABASE** B. DELETE DATABASE C. REMOVE DATABASE D. None of the mentioned	CO1		
38	Which of the following statement removes Sales and suppliers database? A. DROP DATABASE Sales, NewSales; B. DROP DATABASE Sales, suppliers; C. DROP DATABASE Sales and suppliers; D. DROP DATABASE Sales-suppliers;	CO1		
39	. Which of the following statements are TRUE? A. Integrity constraint can be added to a table even if table data is in violation B. **A Unique constraint allows multiple rows to have NULL value** C. A PRIMARY KEY allows a single row to contain NULL D. Both A and B	CO1		
40	Which statement would add a column CGPA to a table Student which is already created A. ALTER TABLE Student ADD COLUMN (CGPA NUMBER(3,1)); B. ALTER TABLE Student CGPA NUMBER(3,1); C. **ALTER TABLE Student ADD (CGPA NUMBER(3,1));** D. Both A and C	CO1		
41	Which command allows the removal of all rows from a table but flushes a table more efficiently since no rollback information is retained: A. **TRUNCATE command** B. Create command C. Drop table command D. Alter table command	CO1		

42	Point out the correct statement. A. **When a database is dropped, the master database should be backed up** B. You can drop a database currently being used C. Dropping a database snapshot does not delete the database snapshot from an instance of SQL Server D. None of the mentioned	CO1		
43	Which of the following statements are False about DISTINCT keyword? A. DISTINCT removes duplicates based on all the columns in the SELECT clause B**. DISTINCT keyword can be used in SELECT and WHERE clauses** C. Usage of DISTINCT should be avoided as far as possible due to performance issues D. None of the above	CO1		
44	A type of query that is placed within a WHERE or HAVING clause of another query is called A. Master query B. **Sub query** C. Super query D. Multi-query	CO1		
45	Which of the following columns in a table cannot be updated? A. DATE type columns in the table B. Columns which allows NULL values in the table C. **A primary key column which also serves as foreign key reference in another table** D. All of the above	CO1		
46	Which one of these is used with SELECT clause to fetch all columns from a table? A. ALL **B. *** C. DISTINCT D. AS	CO1		
47	A data manipulation command the combines the records from one or more tables is called A. SELECT B. PROJECT C. **JOIN** D. PRODUCT	CO1		
48	Select the sequence for how the query mechanism works? A. **Authentication-> DDL->DML->query optimizer->output** B. DDL->DML->query optimizer-> Authentication->output C. DML->query optimizer-> Authentication-> DDL-> output D. All of the mentioned	CO1		

49	**What is TRUE about SAVEPOINT?** A. Following the completion of a transaction, it must be executed to save all the operations performed in the transaction. B. A transaction can be rolled back to its last saved state. **C. A specific part of a transaction can be given a name** D. None of the above	CO1		
50	Which one of the following commands is used to restore the database to the last committed state? A. Savepoint **B. Rollback** C. Commit D. Both A & B	CO1	Remembe r	
	PART B (4 Marks)			
1	**What are the disadvantages of file processing system?** The disadvantages of file processing systems are a) Data redundancy and inconsistency b) Difficulty in accessing data c) Data isolation d) Integrity problems e) Atomicity problems f) Concurrent access anomalies		Remember	3-6
2	**List out the applications of DBMS.** a) Banking b) Airlines c) Universities d) Credit card transactions e) Tele communication f) Finance g) Sales h) Manufacturing i) Human resources		Remember	1-2
3	**What are the purposes of DBMS?** The purpose of DBMS is to transform the following − • Data into information. • Information into knowledge. • Knowledge to the action. **Uses of DBMS** The main uses of DBMS are as follows − • Data independence and efficient access of data. • Application Development time reduces. • Security and data integrity. • Uniform data administration. • Concurrent access and recovery from crashes.		Remembe r	3

4	**Compare instances and schemas of database?** **Instances :** Instances are the collection of information stored at a particular moment. The instances can be changed by certain CRUD operations as like addition, deletion of data. It may be noted that any search query will not make any kind of changes in the instances. **Example –** Let's say a table teacher in our database whose name is School, suppose the table has 50 records so the instance of the database has 50 records for now and tomorrow we are going to add another fifty records so tomorrow the instance have total 100 records. This is called an instance. **2. Schema :** Schema is the overall description of the database. The basic structure of how the data will be stored in the database is called schema.		Understand	8
5	**What are the various types of Databases?** 1) Centralized Database. It is the type of database that stores data at a centralized database system. ... 2) Distributed Database. ... 3) Relational Database. ... 4) NoSQL Database. ... 5) Cloud Database. ... 6) Object-oriented Databases. ... 7) Hierarchical Databases. ... 8) Network Databases.		Remember	
6	**Explain the classification of data models?** 1. Relational model 2. ER model 3. Object based data model 4. Semistructured data model		Understand	8-9
7	**Outline the concept of Data Abstraction in DBMS** Database systems are made-up of complex data structures. To ease the user interaction with database, the developers hide internal irrelevant details from users. This process of hiding irrelevant details from user is called data abstraction. **Three levels of abstraction**: **Physical level**: This is the lowest level of data abstraction. It describes how data is actually stored in database. You can get the complex data structure details at this level. **Logical level**: This is the middle level of 3-level data abstraction architecture. It describes what data is stored in database. **View level**: Highest level of data abstraction. This level describes the user interaction with database system.		Understand	6

8	**Explain Data Independence in DBMS?** Data Independence is defined as a property of DBMS that helps you to change the Database schema at one level of a database system without requiring to change the schema at the next higher level. Data independence helps you to keep data separated from all programs that make use of it. You can use this stored data for computing and presentation. In many systems, data independence is an essential function for components of the system. **Types of Data Independence** In DBMS there are two types of data independence 1. Physical data independence 2. Logical data independence.		Understand	
9	**What are the different components of DBMS?** The term database system refers to an organization of components that define and regulate the collection, storage, management, and use of data within a database environment. The five major *components of database management system* are i. Hardware, ii. Software, iii. People, iv. Procedures, and v. Data.		Remember	
10	**What are the main tasks performed by DBA?** The following are the functions of a Database administrator. ● Schema Definition ● Storage structure and access method definition ● Schema and physical organization modification. ● Granting authorization for data access. ● Routine Maintenance		Remember	28-29

11	**Outline the Types of Database Users in DBMS** 1. **Application Programmers –** They are the developers who interact with the database by means of DML queries. These DML queries are written in the application programs like C, C++, JAVA, Pascal, etc. 2. **Sophisticated Users –** They are database developers, who write SQL queries to select/insert/delete/update data. They do not use any application or programs to request the database. 3. **Specialized Users –** These are also sophisticated users, but they write special database application programs. They are the developers who develop the complex programs to the requirement. 4. **Stand-alone Users –** These users will have a stand-alone database for their personal use. These kinds of the database will have readymade database packages which will have menus and graphical interfaces. **5. Native Users –** these are the users who use the existing application to interact with the database.		Understand	27-28
12	**Summarize the Data Definition Language** ● **DDL** stands for **D**ata **D**efinition **L**anguage. It is used to define database structure or pattern. ● It is used to create schema, tables, indexes, constraints, etc. in the database. ● Using the DDL statements, you can create the skeleton of the database. ● Data definition language is used to store the information of metadata like the number of tables and schemas, their names, indexes, columns in each table, constraints, etc. Here are some tasks that come under DDL: ● **Create:** It is used to create objects in the database. ● **Alter:** It is used to alter the structure of the database. ● **Drop:** It is used to delete objects from the database. ● **Truncate:** It is used to remove all records from a table. ● **Rename:** It is used to rename an object. ● **Comment:** It is used to comment on the data dictionary.		Understand	10-11

13	**Explain about Data Manipulation Language** **DML** stands for **D**ata **M**anipulation **L**anguage. It is used for accessing and manipulating data in a database. It handles user requests. Here are some tasks that come under DML: • **Select:** It is used to retrieve data from a database. • **Insert:** It is used to insert data into a table. • **Update:** It is used to update existing data within a table. • **Delete:** It is used to delete all records from a table. • **Merge:** It performs UPSERT operation, i.e., insert or update operations. • **Call:** It is used to call a structured query language or a Java subprogram. • **Explain Plan:** It has the parameter of explaining data. • **Lock Table:** It controls concurrency.		Understand	10
14	**Outline about Data Control Language** • **DCL** stands for **D**ata **C**ontrol **L**anguage. It is used to retrieve the stored or saved data. • The DCL execution is transactional. It also has rollback parameters. (But in Oracle database, the execution of data control language does not have the feature of rolling back.) Here are some tasks that come under DCL: • **Grant:** It is used to give user access privileges to a database. • **Revoke:** It is used to take back permissions from the user. There are the following operations which have the authorization of Revoke: CONNECT, INSERT, USAGE, EXECUTE, DELETE, UPDATE and SELECT.		Understand	
15	**What is Transaction Control Language?** TCL is used to run the changes made by the DML statement. TCL can be grouped into a logical transaction. Here are some tasks that come under TCL: • **Commit:** It is used to save the transaction on the database. • **Rollback:** It is used to restore the database to original since the last Commit.		Remember	
	PART C (12 Marks)			
1	**Illustrate** with neat sketch the views of data.		Understand	6-9
2	**How** does DBMS provide data abstraction? Explain the concept of data independence.		Remember	6-9
3	**Explain** about the reasons brings you to choose the data base than file system.		Understand	3-6
4	With a neat diagram **show** the overall system structure of DBMS.		Understand	23-25
5	**Explain** Database Administrator's responsibilities.		Understand	27-29
6	What is Data modeling and **explain** different types of data modeling in brief.		Understand	8-9

7	**Outline** DDL and DML commands.		Understand	13-14
8	Draw and **explain** three-tier schema architecture of database system.		Understand	23-25
9	Design any two database applications by describing their features.		Create	
10	Explain different languages that are supported to manage the data in DBMS		Understand	9-12

Note:

1. **BT Level –** Blooms Taxonomy Level
2. **CO – Course Outcomes**

BT1 –Remember BT2 – Understand BT3 – Apply BT4 – Analyze BT5 – Evaluate BT6 – Create