



MARWADI UNIVERSITY

Faculty of Technology

BRANCH Information Technology / Computer Engineering]

B.Tech

SEM: 3

Enroll. No. _____

WINTER: 2017

Subject: - (Database Management System) (01CE0302)

Date:- 24-11-2017

Total Marks:-100

Time: - 03:00 hours

Instructions:

- 1. All Questions are Compulsory.**
- 2. Make suitable assumptions wherever necessary.**
- 3. Figures to the right indicate full marks.**

Question: 1.

- (a) Choose the correct answer from the given options [10]
1. Anything that affects the database schema is a part of
A) DML B) DCL C) DDL D) TCL
 2. Which can be used to delete all the rows if a table?
A) Delete * from table_name B) Delete from table_name
C) Delete table_name D) all rows cannot be deleted at a time.
 3. Which if the following is not the type of data integrity.
A) Key integrity B) Domain integrity
C) Entity integrity D) Referential integrity
 4. Which of the following is/are the DDL statements?
A) Create B) Drop C) Alter D) All of the above
 5.specifies a search condition for a group or an aggregate.
A) GROUP BY Clause B) HAVING Clause
C) FROM Clause D) WHERE Clause
 6. The relational model is based on the concept that data is organized and stored in two-dimensional tables called
A) Fields B) Records C) Relations_ D) Keys
 7. Which of the syntax is correct for insert statement?
i) insert into <table_name> values <list of values>
ii) insert into <table_name> (column list) values <list of values>
A) i-only B) ii-only C) Both of them D) None of them
 8. Drop Table cannot be used to drop a table referenced by a constraint.
A) Local Key B) Primary Key C) Composite Key D) Foreign Key

9. In ER Diagram diamond symbol represents _____
 A) Entity B) Relationship C) Attribute D) Foreign Key
10. _____ can be used to retrieve data from multiple tables
 A) Embedded SQL B) Dynamic SQL C) Joins D) Views

(b) Answer the following questions. [10]

1. Define DBA
2. What is Database Management System?
3. What is attribute?
4. What is foreign Key?
5. What is weak entity set?
6. Draw the ER diagram symbols for multi valued attributes and derived attribute.
7. What is full form of DDL
8. Differentiate between unique key and primary key
9. What is functional Dependency?
10. What is trigger?

Question: 2.

- (a) Differentiate between database management system and file management system [08]
- (b) What is Normalization. Explain 2NF and 3NF in detail. [08]

OR

- (b) List all relational algebra operations and explain any two with example. [08]

Question: 3.

- (a) Draw an E-R diagram for Library Management System. [08]
 Assume relevant entities and attributes for the given system
- (b) Discuss any four aggregate functions with example. [04]
- (c) Given $R = (A, B, C, G, H, I)$. The following set F of functional dependencies holds [04]
 $A \rightarrow B$ $A \rightarrow C$ $CG \rightarrow H$ $CG \rightarrow I$ $B \rightarrow H$
 Compute AG^+ . Is AG a candidate key?

OR

- (a) Draw an Entity Relation diagram for the Hospital Management System. [08]

- (b) What is dead lock? Illustrate the same with wait-for graph. [04]
- (c) Define cursor. Discuss various types of cursors in PL/SQL [04]

Question: 4.

- (a) Define Transaction. Explain the transaction properties and transaction states. [08]
- (b) Explain generalization and specialization with suitable example and diagram. [04]
- (c) State the differences between conflict serializability and view serializability. [04]

OR

- (a) Explain all types of outer Joins with examples. [08]
- (b) Given relation R with attributes A,B,C,D,E and set of FDs as
 $A \rightarrow BC$ $CD \rightarrow E$ $B \rightarrow D$ $E \rightarrow A$
Find out closure $\{E\}^+$ and $\{B\}^+$ [04]
- (c) Compare rollback with commit SQL commands. [04]

Question: 5.

- (a) What is locking? Explain two phase locking and its types. [08]
- (b) Write differences between grant and revoke commands with suitable example. [04]
- (c) Write and explain structure of PL/SQL block. [04]

OR

- (a) Define Failure. Write a note on log based recovery. [08]
- (b) Write SQL statements (Query) for following tables:
 $T1(\text{rollno, stuname, age, city, branchcode})$
 $T2(\text{branchcode, branchname})$
1. Change age of student to 20 whose rollno is 1
2. Delete student details whose age is 18.
3. Display roll number, student name and age of students whose city is Chennai
4. Retrieve branch information in descending order [04]
- (c) Explain Mandatory Access Control v/s Discretionary Access Control. [04]

Question: 6.

(a) Write queries for the following tables: [08]

emp(emp_no, ename, salary, designation)

dept(dept_no, dname, emp_no)

1. Display all the details of the employees whose salary is more than 10000
2. Display the department name where John is working
3. Add new column joining_date in emp table
4. Change the designation of Merry from 'Manager' to 'Senior Manager'
5. Find total salary of all the employees
6. One new employee has been hired entered his details in emp table.
7. Display Employee .Name, Salary and Department Name
8. Drop the table dept

(b) Explain the various types of database user. [04]

(c) What is the security of Data? Illustrate Data encryption with a simple example. [04]

OR

(a) Draw and explain three level abstraction architecture of DBMS. [08]

(b) Write a short note on Mapping cardinality in ER diagram [04]

(c) Explain shared and exclusive locks. Also state the difference. [04]

---Best of Luck---

Your Que. Paper weight-age as per Bloom's Taxonomy

No.	Que. Level	% of weight-age	
		% of weight -age	Que. No.
1	Remember/Knowledge	28%	Q-1 (A), Q-1(B), or Q-4(a), or Q-5(b), or Q-5(c),Q-6(b),or Q-6 (b)
2	Understand	28%	Q-3 (b) , or Q-3(b), or Q-3(c), Q-4(a),Q-4(b),Q-5(a),Q-5(c), Q-6(a),Q-6(c)
3	Apply	9%	or Q-5 (b), Q-6 (a), or Q-4(c)
4	Analyze	21%	Q-2 (a),Q-2(b) or Q-2(b), Q-4 (c),Q-5(b), or Q-6 (c)
5	Evaluate	5%	Q-3 (c), or Q-4 (b)
6	Higher order Thinking	9%	Q-3 (a), or Q-3 (a)

GRAPH:

