Enroll. No._____

MARWADI UNIVERSITY

Faculty of Technology

[Computer Engineering/Information Technology]

[B.Tech] **SEM: 3rd** **WINTER:2018**

Subject: - (Database Management System) (01CE1302) **Date:-20/10/2018**

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) Objective MCQ [10]

1- SQL stands for
(A)-Structured Query Language
(B) Special Q Language
(C) Star query Language
(D) None of these

2- DML stands for
(A)-Data Manipulation Language
(B) Derived manual Language
(C) Data management Language
(D) None of these

3- DDL stands for
(A)-Data definition Language
(B) Derived data Language
(C) Data design Language
(D) None of these

4- In an E-R diagram attributes are represented by
(A) Rectangle.
(B) Square.
(C) Ellipse.
(D) Triangle

5- In an E-R diagram an entity set is represent by a
(A) Rectangle.
(B) Ellipse.
(C) Diamond box.
(D) Circle.

6 -E-R model uses this symbol to represent weak entity set?
(A) Dotted rectangle.
(B) Diamond
(C) Doubly outlined rectangle
(D) None of these

7-The RDBMS terminology for a row is
(A) Tuple.
(B) Relation.

(C) Attribute.
(D) Degree

8 - In E-R Diagram derived attribute are represented by
(A) Ellipse
(B) Dashed ellipse
(C) Rectangle
(D) Triangle

9 - In E-R diagram generalization is represented by
(A) Ellipse
(B) Dashed ellipse
(C) Rectangle
(D) Triangle

10-Cross Product is a:
(A) Unary Operator
(B) Ternary Operator
(C) Binary Operator
(D) Not an operator

(b) Define the following [10]
1-Alter in SQL
2-DBMS
3-Data
4-Meta Data
5-Information
6-Candidate Key
7-Attributes in E-R
8-Data Dictionary
9-Schema
10-Commit in SQL

Question: 2.

(a) Explain DBMS three tier architecture in detail [08]

(b) Draw E-R Diagram for Hospital Management System [08]

OR

(b) List the various user type of DBMS .Explain each type in details [08]

Question: 3.

(a) List and explain all the Relational algebra operators. [08]

(b) Explain Primary key and candidate key with example [04]

(c) What is advantages of DBMS? Explain in brief. [04]

OR

(a) Write a note on conflict serializability with example [08]

(b) Illustrate ACID properties in brief. [04]

(c) Define transaction various states in brief [04]

Question: 4.

(a) Define normalization .Explain all normal form in brief [08]

(b) Define Trigger in brief [04]

(c) Explain what is stored procedure in DBMS [04]

OR

(a) Explain 1NF,2NF,3NF,BCFNF(NF stands for normal form) in detail [08]

(b) Describe GRANT and REVOKE commands with example. [04]

(c) Write SQL Query for following [04]

1-Create table with name student(ER, Name, City)
2- Insert values into table 1, Raj, Rajkot
3-Add new column college name in the table
4-change the student name from Raj to sumit.

Question: 5.

(a) Discuss two phase locking protocol in brief [08]

(b) Discuss log based Recovery in DBMS [04]

(c) Explain Encryption in detail. [04]

OR

(a) Find the number of candidate key in the following relation [08]

(i)R(ABCDEH)

A→B
BC→D
E→C
D→A

(ii)R(ABCDEF)

C→ F
E→A
EC→D
A→B

(b) Find the closure of AB,DE in given relation R(ABCDEPG) having FD as [04]

AB→ CD
DE→ P
C→ E
P→ C
B→ FG

(c) Explain types of schedules in brief. [04]

Question: 6.

(a) Consider following relational database [08]

Passenger (bus_no.name, age, passenger_id, booking_date)

1. Display all the records of adult passengers
2. Change the bus number to 1001 who book the bus on '02-oct-18'
3. Display the records in descending order(order by passenger name)
4. Delete all the records of passengers whose passenger_id is 101

(b) Describe deadlock in details with example [04]

(c) Discuss advantages of PL/SQL in brief. [04]

OR

(a) Consider the following schedule S and transactions T1,T2,T3 .check S is conflict Serializable or not [08]

T1	T2	T3
R(X)		
		R(Z)
		W(Z)
	R(Y)	
R(Y)		
	W(Y)	
		W(X)
	W(Z)	
W(X)		

(b) Explain View in brief [04]

(c) Define and explain NOT NULL, Foreign Key, Integrity constraints [04]

---Best of Luck---

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

No.	Que. Level	% of weight-age	
		% of weight -age	Que. No.
1	Remember/Knowledge	21	1-a,1-b,3c,4a,4b
2	Understand	27	2-a,2b,or 2b,6a,6b,6c
3	Apply	25	3-a,3b,or 3a,3b,3c,or 6c,4b,4c
4	Analyze	17	or 4a,4b,4c,or 6a,6b
5	Evaluate	10	or 5a,5b,5c,
6	Higher order Thinking	-	-

GRAPH: