Enroll. No._____

MARWADI UNIVERSITY
MU-FOT
CE-FOT1 (MU), IT-FOT1 (MU)
Semester 3 - Summer

Subject : DATABASE MANAGEMENT SYSTEM (01CE1302)
Date : 26-Apr-2022 **Time : 3 Hours** **Total Marks : 100**

Instructions :

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Que.1 (A) Answer the following objectives **[10]**

(1) The symbol of Entity in E-R is _____-
a) Rectangle b) Oval
c) Square d) None

(2) Which Constraint do not allow Null Values
a) Unique b) Primary
c) Foreign d) None of the above

(3) Error detection, Error corruption are means of_____
a) Data Security b) Data Efficiency
c) Data Integrity d) None

(4) In case of any shut down during transaction before commit which of the following statement is done automatically?
a) View b) Commit
c) Abort d) Rollback

(5) The symbol of Attributes in E-R is _____
a) Rectangle b) Oval
c) Diamond d) None

(6) Which among the following is not the type of Cardinality?
a) One to Single b) Many to Many
c) One to One d) None

(7) Full form of SQL?
a) Systematic Query Language b) Structured Query Language
c) Strucutral Query Language d) None

(8) In the _____ normal form, a composite attribute is converted to individual attributes.
a) 1 NF b) 2 NF
c) 3 NF d) 4 NF

(9) PL/SQL block ends with _____ command
a) Terminate b) End
c) Close d) None

(10) Which statements execute a sequence of statements multiple times?
a) Exit b) Loop
c) Both d) None

Que.1 Answer the following questions. **[10]**
(B)

(1) List out any two ACID Properties

(2) What is the full form of DBMS

(3) Define Instance:

(4) Define Primary Key

(5) Write a symbol for project operation in relational algebra.

(6) What is Data Independence

(7) The database schema is written in with the help of which Command?

(8) The view of total database content is _____

(9) What is SubSchema ?

(10) Data Abstraction in any database can be viewed in how many levels?

Que.2

(A) What is recoverable schedule? Why recoverability of schedule is desirable? Explain recovery with concurrent transaction. [8]

(B) Write SQL statements (Query) for following tables: [8]
DEPOSIT (ACTNO ,CNAME , BNAME , AMOUNT ,ADATE);
BORROW(LOANNO , CNAME , BNAME , AMOUNT);
Employee (emp_no, emp_name, emp_sal, emp_comm, dept_no)
Job (job_id, job_title, min_sal, max_sal)
deposit(a_no,cname,bname,amount,a_date).
borrow(loanno,cname,bname,amount).

1) Display name and salary of employee whose department no is 20. Give alias name to name of employee.
2) Give name of customers who opened account after date '1-12-96'.
3) Display employee no,name and department details of those employee whose department lies in(10,20)
4) Display all employee whose name start with ‘A’ and third character is ‘ ‘a’.
5)List total loan from karolbagh branch.
6) Create table supplier from employee with all the columns
7) Delete the detail of supplier whose sup_no is 103
8) Update the value of employee name to darshan whose employee number is 103.

OR

(B) *Explain types of Access Control methods in data security?* [8]

Que.3

(A) Explain String functions. [8]

(B) Explain Check, Not Null and Unique Key Constraint with example [4]

(C) Explain the concept of Functional Dependency in detail with example. [4]

OR

(A) *Explain Heuristics and cost based optimization* [8]

(B) Explain types of Functional Dependency [4]

(C) Explain 1NF and 2NF with example. [4]

Que.4

(A) Check following schedule is View Serializable or not. [8]

T1	T2	T3
READ(A)		
	WRITE(A)	
WRITE(A)		
		WRITE(A)

(B) Explain Graph based Protocol. [8]

OR

(A) What is Lock? What is Locking? Explain Lock based protocol. [8]

(B) Find the Candidate key for each of the following FDs: [8]

1. AB → C, A → DE, B → F, F → GH
2. BC → ADE, D → B

Que.5

(A) Draw an E-R diagram for Hospital Management System [6]

(B) Explain Joins in details. [6]

(C) Explain types of database model in brief. [4]

OR

(A) Write a PL/SQL program for inserting even numbers in EVEN table and odd number in ODD table from number 1 to 50. [6]

(B) Draw and explain ANSI/SPARC three level (Data Abstraction)architecture. [6]

(C) Define Outer Join with example. [4]

Que.6

(A) Differentiate Immediate and Differed Database modification. [8]

(B) Explain types of relationship cardinalities with example [4]

(C) Explain closure set of Attributes with an example [4]

OR

(A) Explain the concept of Triggers in RDBMS with example [8]

(B) Explain Total and Partial Participation with proper example. [4]

(C) List out Relation algebra operators and explain cross product with example. [4]

---Best of Luck---

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Difficulty Level	Weightage Recommended	Actual	No of Question	Total Marks	Question List
High	20	26.16	10	45	1(A), 1(B), 2(B), 3(C), 4(B), 5(B), 5(C), 6(B)
Low	20	12.79	7	22	1(A), 1(B), 4(A), 5(B), 6(C)
Medium	60	61.05	28	105	1(A), 1(B), 2(A), 3(A), 3(B), 3(C), 4(A), 4(B), 5(A), 5(C), 6(A), 6(B), 6(C)

Module Name	Weightage Recommended	Actual	No of Question	Total Marks	Question List
Query Processing & Query Optimization:	5	4.65	1	8	3(A)
PL/SQL Concepts:	5	9.30	4	16	1(A), 5(A), 6(A)
Introductory concepts of DBMS:	10	7.56	8	13	1(B), 5(B)
Relational Model:	10	9.88	6	17	1(A), 1(B), 5(B), 5(C), 6(C)
Security:	10	5.23	2	9	1(A), 2(B)
SQL Concepts	10	9.88	3	17	1(A), 2(B), 3(A)
Entity-Relationship Model:	15	14.53	8	25	1(A), 3(B), 5(A), 5(C), 6(B)
Relational Database Design:	15	14.53	6	25	1(A), 3(B), 3(C), 4(B), 6(C)
Transaction Management:	20	24.42	7	42	1(A), 1(B), 2(A), 4(A), 4(B), 6(A)

Blooms Taxonomy	Weightage Recommended	Actual	No of Question	Total Marks	Question List
Remember / Knowledge	20	36.63	27	63	1(A), 1(B), 2(B), 3(A), 3(B), 3(C), 4(B), 5(C), 6(B)
Understand	30	42.44	13	73	1(B), 2(A), 3(A), 3(B), 3(C), 4(A), 5(B), 5(C), 6(A), 6(C)
Apply	25	20.93	5	36	2(B), 4(A), 4(B), 5(A)
Analyze	15	0.00	0	0	
Evaluate	10	0.00	0	0	
Higher order Thinking	0	0.00	0	0