22321

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1.   Attempt any <u>FIVE</u> of the following: **10**

a) Define DBMS. State its characteristics.

b) State different types of Data Models.

c) Define object oriented of Data Model.

d) Define the terms.

   i)   Domain

   ii) Attribute

e) Define Primary Key and Candidate Key.

f) Define structure of relational database.

g) Draw symbols to draw E-R diagram.

h) Write any two drawbacks of denormalization.

i) State Normalization. List its types.

Marks

2. **Attempt any THREE of the following:** **12**

a) Draw architecture of DBMS.

b) Explain Hierarchical model with example.

c) Draw E-R diagram for hotel system.

d) Explain enhanced E-R model in detail.

3. **Attempt any THREE of the following:** **12**

a) Explain data abstraction with its levels.

b) Describe commit and rollback with syntax and example.

c) Explain strong and weak entity sets with example.

d) Define following in enhanced E-R model:

   i) Subclass

   ii) Superclass

   iii) Specialization

   iv) Generalization

4. **Attempt any THREE of the following:** **12**

a) List and explain any four advantages of DBMS.

b) Compare network model and relational model.

c) Describe foreign key with example.

d) Consider following schema :

   EMP(Empno, Ename, job, mgr, joindate, salary, comm, deptno)

   Write SQL queries for following:

   i) To find list of employees whose salary is not less than 50000.

   ii) To find list of employees whose job title is either "Manager" or "Analyst".

   iii) Change the location of deptno 40 to Pune from Chandrapur.

   iv) Display Ename and salary of employees who earn more than Rs. 50,000 and in dept_no 10 or 30.

e) Explain multi-valued dependencies in detail.

5. **Attempt any TWO of the following:** **12**

a) Explain Domain Integrity constraints with example.

b) Consider following table which is in un-normalized form

Emp_id	Emp_name	Month	Sales	Bank_id	Bank
01	Ramesh	Jan	1000	101	SBI
		Feb	1500		
		Mar	2200		
02	Manish	Jan	1700	201	BOI
		Feb	300		
03	Seeta	Jan	1700	101	SBI
		Feb	1900		

Normalize above table in 1NF, 2NF and 3NF.

c) Explain Drop and Delete commands with syntax.
State difference between them.

6. **Attempt any TWO of the following:** **12**

a) Explain referential integrity constraints with example.

b) Describe Codd's Rules for RDBMS.

c) Explain denormalization process with its advantages and disadvantages.

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