

[Time:2.30 Hrs]

[ Marks:75 ]

Please check whether you have got the right question paper.

- N.B:
1. All question are compulsory.
  2. Figures to the right indicate full marks.

**Q.1 Attempt any four of the following:****20**

- A What is database management system? What are the drawbacks of File system?
- B Explain database architecture system with the help of neat and labelled diagram.
- C Explain ER diagram with notations used in it. Also give example of ER diagram for Hospital Management System.
- D Explain different Data Models in detail.
- E Distinguish Between: Strong Entity Set v/s Weak Entity Set.
- F Explain the following SQL Commands with example:
  - i. Primary Key
  - ii. Unique Key
  - iii. Candidate Key
  - iv. Entity
  - v. Attributes

**Q.2 Attempt any four of the following:****20**

- A Give features of good relational design.
- B What is Normalization? Give list of different normal forms used in DBMS. Also find the highest normal form of a relation R (A, B, C, D) with the given Functional Dependency:
 

A-> B, B-> C, C-> D, D-> A.
- C What do you mean by Lossless and Lossy Join Decomposition?
- D Explain the following SQL Commands with example:
 

i. ALTER	ii. SELECT	iii. COMMIT
iv. CREATE	v. ROLLBACK	
- E Explain the following Aggregate functions in DML with example:
 

i. Count()	iii. Min()
ii. Max()	iv. Entity()
v. Avg()	
- F Consider the following database
 

Employee (Emp\_id, Emp\_name, Emp\_city, Emp\_addr, Emp\_sal, Emp\_dept, Emp\_design)

Write the SQL queries based on the above relation:

- i. Display Employee ID of employee who live in city 'Mumbai' or 'Bangalore'.
- ii. Change Employee name , 'Sachin' to ' Sam'.
- iii. Delete employees whose employee department is 35.
- iv. Display employee name whose name ends with 'p'.
- v. Display employee ID, employee name whose salary is above 50,000 and designation is ' CEO'.

**Q.3 Attempt any four of the following:**

**20**

- A What is Join? Explain different types of Joins in database.
- B Define Views. Also give its advantages and disadvantages.
- C Explain the following DCL command with the help of example:
  - i. Grant
  - ii. Revoke
- D Give roles of Data Base Administrator in DBMS.
- E What do you mean by String function, Math function and Date function in SQL ? Explain with example.
- F Explain different types of Views in database.

**Q.4 Attempt any three of the following:**

**15**

- A Short Notes on: Foreign Key – Referential Integrity Constraints
- B Distinguish Between : Delete and Drop command
- C Explain the commands in SQL:
  - i. Group By clause
  - ii. Having clause
  - iii. Order By clause
- D Explain in brief different operations performed in Relational Algebra.
- E Explain in brief reasons for Database System Failures.
- F Explain different data types used in SQL.

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