

Time : 2:30 Hours]**NOTES :**

- i) Attempt **all** questions. Attempt **any two** parts of every questions.
- ii) Students are advised to specially check the Numerical Data of question paper in both versions. If there is any difference in Hindi Translation of any question, the students should answer the question according to the English version.
- iii) Use of Pager and Mobile Phone by the students is not allowed.

Q1) Answer any two of the following.**[2 × 5 = 10]**

- a) Explain conceptual and internal view of the DBMS.
- b) What are the components of DBMS.
- c) What is DBMS? Explain the advantages.

Q2) Answer any two of the following**[2 × 5 = 10]**

- a) Draw an ER diagram for library management system.
- b) Write the advantages and disadvantages of the various Data models.
- c) What is strong and weak entity set? Explain with example.

Q3) Answer any two of the following**[2 × 5 = 10]**

- a) Write the Codd's 12 rules.
- b) Explain basic operation of relational algebra.
- c) Write notes on key and integrity constraints.

Q4) Answer any two of the following.**[2 × 5 = 10]**

- a) What is the purpose of Normalization. Explain updating anomalies.
- b) Write notes on functional dependencies and decomposition.
- c) Explain 1NF, 2NF, 3NF with example.

Q5) Answer any two of the following**[2 × 5 = 10]**

- a) Explain following SQL commands with example. **SELECT, WHERE, ORDER BY**
- b) Write notes on security constraints and Integrity constraints.
- c) Explain procedure and stored procedures in PL/SQL.