

Duration: 3hrs

Max Marks:80

N.B. : (1) Question No 1 is Compulsory.

(2) Attempt any three questions out of the remaining five.

(3) All questions carry equal marks.

(4) Assume suitable data, if required and state it clearly.

1

- a. Explain various characteristics of Database [5]
 - b. Discuss role of DBA in Database Management. [5]
 - c. Explain the importance of Normal form in database [5]
 - d. Discuss DCL operations in SQL with Examples [5]
- 2
- a. Draw and explain the overall system structure of DBMS. [10]
 - b. Design an ER diagram for a Hotel Management System and convert it into a relational schema. [10]
- 3
- a. Discuss Relation Algebra operations with examples [10]
 - b. Discuss various ACID Properties in database in detail [10]
- 4
- a. Explain Conflict and View Serializability in concurrency control. [10]
 - b. What is Normalization? Explain 1NF, 2NF, and 3NF with an example. [10]
- 5
- a. Explain database programming with JDBC. [10]
 - b. Explain deadlock handling in concurrency control [10]
- 6
- Write short note on:
- a. Integrity Constraints in SQL [5]
 - b. Discuss role of ER diagram. [5]
 - c. Discuss Log based Recovery. [5]
 - d. Order by Group by clause [5]
