

USN

Max. Marks: 80

Module-3

- 5 Consider the following schema of order database
SALESMAN (Salesmanid, name, city, commission);
CUSTOMER (Custid, custname, city, grade, salesmanid);
ORDERS (Ordno, purchaseamt, orddate, custid, salesmanid);
Write SQL queries for the following:
- Find the name and numbers of all salesman who had more than one customer.
 - Count the customers with grade above Bangalore's average.
 - List all the salesman details whose first name is 'John'.
 - List all salesman and indicate those who have and don't have customers in their cities (Use UNION operation).
 - Use the delete operation by removing salesman with id = 2000. (16 Marks)

OR

- 6 a. Explain three-tier architecture with neat diagram. (08 Marks)
b. Define stored procedure. Explain creating and calling of stored procedure with an example. (08 Marks)

Module-4

- 7 a. Define normal form. Explain 1NF, 2NF and 3NF with suitable example. (08 Marks)
b. Discuss insertion, deletion and modification anomalies. Why are they considered bad? Illustrate with example. (08 Marks)

OR

- 8 a. Explain the four informal guidelines that may be used as measures to determine the quality of relation schema design. (08 Marks)
b. Write an algorithm for finding a minimal cover 'F' for a set of functional dependencies 'E'. Find the minimal cover for the given set of FD's
G: $\rightarrow BCDE, CD \rightarrow E$ (08 Marks)

Module-5

- 9 a. Discuss the atomicity, durability, isolation and consistency preserving properties of a database transaction. (08 Marks)
b. Why concurrency control is needed demonstrate with example? (08 Marks)

OR

- 10 a. Discuss Two-Phase Locking Technique for concurrency control. (10 Marks)
b. Explain NO-UNDO/REDO Recovery based on deferred update. (06 Marks)