

Note: i) All questions are compulsory.

ii) Figures to the right indicate full marks.

iii) Give query example wherever necessary.

Q.1 Attempt any Four.

[20]

- a) What are the disadvantages of file management system?
- b) Explain Normalization with 3NF and BCNF.
- c) What do you mean by a Weak entity set?
- d) Explain the terms-
 - i) Entity Set
 - ii) Relationship Set
 - iii) Attributes
- e) Explain cardinality constraint.
- f) Write a short note on – Generalization.
- g) What do you mean by DBMS? What are its applications?
- h) What do you mean by total participation and partial participation?

Q.2 Attempt any Four.

[20]

- a) Explain select and projection operators.
- b) Explain DDL statements used in SQL? Give example of each.
- c) What do you mean by constraints? What are different types of constraints used in SQL?
- d) Explain domain relational calculus.
- e) What do you mean by correlated subquery? Explain with example.
- f) What do you mean by join? Explain Right join and Full Outer Join with suitable example.
- g) Explain any five string functions used in SQL.
- h) Consider following tables-

Book(bookid, title, author, publisher, category, price)

Distributor(distid, bookid, dname, city)

Orders(orderno, bookid, distid, qty)

Solve following queries –

- i) Display the details of book whose order is placed having the author 'Henry Korth' and publisher 'TMG'
- ii) Find out minimum of ordered quantity, maximum of ordered quantity, total number of orders placed by each distributor.
- iii) Write a query to display number of books from each category.

Q.3 Attempt any Four.

[20]

- a) Create a stored procedure to calculate factorial of a given number. Write PL/SQL block to execute the same.
- b) Explain the types of indexes with suitable example.
- c) Differentiate between a table and a view.
- d) Explain Row Level trigger with appropriate example.
- e) Write a short note on – Hash index.
- f) What is a view? Explain the syntax of creating and altering a view. Also give suitable example of each.
- g) What are the advantages and disadvantages of stored procedure?
- h) Write a short note on – Heap File.

Q.4 Attempt any three.

[15]

- a) Explain all three levels of abstraction.
- b) Write a short note on – Aggregation.
- c) Explain the following operation with appropriate examples:
 - i) SELECT INTO
 - ii) UNION
- d) Explain following clauses with suitable example:
 - i) HAVING clause
 - ii) ORDER BY clause
 - iii) GROUP BY clause
- e) Explain Tree index with example.
- f) What do you mean by a trigger? Explain statement level trigger with suitable example.