

PART – A

I. Answer any five questions

5x4=20

1. What is the purpose of database systems?
2. Describe the four levels of Data abstraction in SQL.
3. Define Data Model. List the categories of data
4. What is the use of SQL DDL?
5. Define Embedded SQL.
6. Define structured types. Give examples.
7. List few applications of XML?
8. Briefly discuss the steps involved in query processing?
9. Write about Hybrid Merge Join?
10. List the properties of the transactions.

PART-B

II. Answer any one full question from each unit.

5X16=80

Unit-1

1. a) what is database design? Illustrate a database for a university college could be designed.
b) Compare database systems with file systems. Explain the structure of relational database?
(or)
2. a) Explain the different types of relational query languages?.
b) How to represent weak entity sets? Discuss.

Unit-2

3. a) Explain with suitable examples the queries on a single relation and multiple relation.
b) Describe the facilities offered by the SQL for Authorization. Also write their limitations.
(or)
4. Define the following terms and explain with suitable examples
i) Exception Handlings
ii) Cursors
iii) Functions, Procedures

Unit-3

5. a) Explain object identity and reference types in SQL
b) Explain about X-Query and X-Path languages with suitable examples.
(or)
6. a) Explain structured types and inheritance in SQL for customer.
b) Explain about complex data types in SQL.

Unit-4

7. a) Mention the different algorithms to implement join operations? Explain briefly.
b) Describe about External sort merge algorithm and explain with an example?
(or)
8. Consider the SQL query
Select * from Student where age>25
Let N=the number of tuples retrieved with this query. For What values of N would a sequential table scan of the student relation be cheaper than processing the query using the index? Explain your answer.

Unit-5

9. a) Draw a diagram and discuss the typical state that a Transaction goes through during execution.
b) Discuss about Timestamp Ordering Protocol.
(or)
10. Explain the following Transaction processing concepts and their role in data integrity and consistency.
i) COMMIT ii) ROLLBACK iii) SAVEPOINT

PART – A

I. Answer any five questions

5x4=20

- 1.What is the purpose of “where” clauses give an example?
- 2.What are the simple and composite attributes? Give an example for each category..
- 3.Differentiate “weak” and “strong” entity set.
- 4.What is the use of directed acyclic graph? Illustrate with an example.
- 5.Write all the aggregation functions and purpose with suitable examples.
- 6.Define Join types. Give examples.
- 7.Explain briefly about the terms a)Embedded SQL b)Dynamic SQL?
- 8.Write a short note on evaluation plan in query processing?
- 9.Highlight different activities involved in system crash recovery?
- 10.Write about dead lock detection and recovery.

PART-B

II. Answer any one full question from each unit.

5X16=80

Unit-1

1. a)Describe the Three-Schema architecture of a Database management system..
b)Draw an ER-Diagram for Hospital management System, assume your own 4 entities with mapping cardinalities?

(or)

2. Define the following terms with an examples
 - i)Degree of Relation
 - ii)Participation constraint.
 - iii)Types of relational query languages(selection,projection,Cartesian product, rename)

Unit-2

- 3 .Discuss about all Integrity Constrains in SQL with suitable examples.

(or)

4. a)Explain the mechanism of Nested Sub Queries with examples.
b)what is a Trigger? Explain about types of triggers in PL/SQL

Unit-3

- 5.What is the purpose of persistent programming languages? How it can be distinguished from languages with embedded SQL?

(or)

- 6.a)Briefly discuss the commonly used API's for XML and specify the purpose of it.
b)What is XML?Explain various features of XML & also explain the difference between XML & HTML.

Unit-4

- 7.Explain with an example Nested Loop Join operation and Block Nested Loop Join operations..

(or)

- 8.a)Explain about different choices of Evaluation plans
b)What is meant by Equivalence and give the pictorial representation with an example.

Unit-5

- 9.What is multi version schemes? Explain briefly multi-version timestamp ordering and multi-version two phase locking

(or)

- 10.a)Explain about lock based protocols
b).How to handle deadlocks? Explain in detail.