DBMS

Module – 1

1) **Explain File system Vs DBMS**
2) **Explain Advantages of DBMS**
    a) Data Independence
    b) Efficient Data Access
    c) Data Integrity and Security
    d) Data Administration
    e) Concurrent Access and Crash Recovery
3) **Explain DBMS Structure with neat sketch or Structure of DBMS**
4) **List and Explain the Various Data Models with an Examples**
    a) FLAT Data Model
    b) Hierarchical Database Model
    c) Network Data Model
    d) Object Oriented Data Model
    e) Relational Data Model
    f) ER Model
5) **Explain the Features of ER Model**
    a) Key Constraints
    b) Participation Constraints
    c) Weak Entity
    d) Class Hierarchies
    e) Aggregation
6) **Explain the ER Model with an Example**
    Ans :List out all symbols with explanation and with an Examples
7) **Differences between the Aggregation and Ternary Relationship**
8) **Explain Schemas and Types with neat sketch or Abstraction of Schema**
    a) Physical Schema
    b) Conceptual Schema or Logical Schema
    c) External Schema
9) **Explain the People who works with DBMS**
    a) END Users
    b) Naïve Users
    c) Sophisticated Users
    d) Data Implementers
    e) Application Programmers
    f) DBA- Database Administrator
10) **Explain the 6 steps belong to ER Model and Beyond the ER Model Belong to ER MODEL**
    a) Requirement Analysis
    b) Conceptual DB Design
    c) Logical Database Design

Beyond the ER Model

a) Schema Refinement
d) Physical DB Design
e) Applications and Security

11) Define Attribute and Explain types of Attributes

a) Simple attributes
b) Composite attributes
c) Single valued attributes
d) Multi valued attributes
e) Derived attributes
f) Key attributes
g) Descriptive Attribute

12) Define key and Explain all Keys with Examples.

a) SUPER KEY
b) CANDIDATE KEY
c) PRIMARY KEY
d) FOREIGN KEY
e) SECONDARY KEY
f) ALTERNATE KEY

13) Explain Conceptual Design with ER Model

a) Entity Vs Attribute
b) Entity Vs Relationship
c) Binary Vs Ternary Relationship
d) Aggregation Vs Ternary Relationships

MODULE -2

1) Explain Integrity Constraints over Relation with an Examples
2) Define VIEW and Explain it
3) **Explain following**
   a) CHECK CONSTRAINT
   b) NOT NULL
   c) UNIQUE
   d) ENABLE CONSTARINT
   e) DISABLE CONSTRAINT
4) Explain RELATION ALGEBRA and RELATION CALCULUS
5) Differences between TRC and DRC

MODULE – 3

1) **Explain SQL Commands with a Syntax and Examples**
   a) DDL – Data Definition Language

CREATE
ALTER – ADD, MODIFY, DROP
RENAME
TRUNCATE
DROP

b) DML – Data Manipulation Language
   INSERT
   DELETE
   UPDATE
   SELECT

c) DCL – Data Control Language
   GRANT
   REVOKE

d) TCL – Transaction Control Language
   COMMIT
   ROLLBACK
   CHECKPOINT or SAVEPOINT

2) Explain Relation Set Operations

a) UNION
b) INTERSECTION
c) SET DIFFERENCE

Example – Sailors Database

3) List out and Explain various Aggregate Operators

a) MAX
b) MIN
c) SUM
d) AVG
e) COUNT

4) Explain NESTED QUERIES with an Examples

a) IN and NOT IN
b) EXIST AND NOT EXIST – CORRELATED NESTED QUERY
c) > ANY, >ALL, < ANY, <ALL – SET COMPARISION OPERATORS

5) Explain GROUPBY CLAUSE AND HAVING CLAUSE with syntax and Example

6) Explain the CONCEPTUAL Evaluation Strategy

SELECT ATTRIBUTES
FROM CLAUSE
WHERE CLAUSE

7) EXPLAIN LIKE OPERATOR WITH AN EXAMPLE

8) EXPLAIN THE PL/SQL

9) EXPLAIN TRIGGERS AND TYPES OF TRIGGER

3 EVENTS

a) EVENT
b) ACTION
c) CONDITION

TYPES OF TRIGGER – BEFORE TRIGGER and AFTER TRIGGER – ROW LEVEL TRIGGER and STATEMENT LEVEL TRIGGER

10) EXPLAIN CURSOR AND TYPES OF CURSOR – IMPLICT and EXPLICIT CURSOR
11) EXPLAIN JDBC Architecture
12) EXPLAIN JOIN WITH EXAMPLES

MODULE – 4

1) EXPLAIN NORMAL FORMS WITH AN EXAMPLE
2) DEFINE FUNCTIONAL DEPENDENCY
3) **Explain the following**
   a) FUNCTIONAL DEPENDENCY
   b) FULLY FUNCTIONAL DEPENDENCY
   c) TRANSITIVITY FUNCTIONAL DEPENDENCY
   d) PARTIAL DEPENDENCY
4) **Explain Schema Refinement and Various Anomalies**
   a) Redundant Storage
   b) UPDATE Anomaly
   c) INSERTION Anomaly
   d) DELETE Anomaly
5) **Explain the ARMSTRONG RULES or AXIOMS**
   a) REFLEXITIVE
   b) TRANSITIVITY
   c) DECOMPOSITION
   d) AUGMENTATION
   e) UNION
6) **EXPLAIN DECOMPOSITION AND TYPES OF DECOMPOSITION**
   a) LOSSY DECOMPOSITION
   b) LOSSLESS DECOMPOSITION
   c) DEPENDENCY PRESERVATION
7) Find the candidate Key examples – ATTRIBUTE CLOSURE

MODULE – 5

1) Explain CRASH RECOVERY
2) EXPLAIN 2PL
3) EXPLAIN various LOCK Management Techniques
4) Explain Transaction Management and States

5) Explain the ARIES Algorithm
6) **Explain the Serializability and Types of Serializability**
    a) VIEW Serializability
    b) CONFLICT Serializability
7) **Explain ACID Properties**
    a) A- ATOMICITY
    b) C-CONSISTENCY
    c) I – ISOLATION
    d) D- DURABILITY
8) Explain Serial Schedule and Non- serial Schedule
9) Explain Deadlock with an Example