DBMS MODEL QUESTION BANK

MODULE – 1				
S. No.	**QUESTION**	**CO**	**BL**	**MARKS**
1.	What is meant by DBMS and explain applications of DBMS?	1	1	10
2.	Explain the architecture of Database management system with neat diagram?	1	2	10
3.	Explain Database languages with examples?	1	2	10
4.	Explain i) Views of Data ii) Data Abstraction, Instance and schema with example	1	2	10
5.	Describe the three tier architecture. What is the difference between logical and physical data independence	1	2	10
6.	How to develop an ER diagram? Write steps for developing an ER Diagram with an example?	1	2	10
7.	Write a note on various types of end users who use DBMS. List out the responsibilities of a database administrator	1	1	10
8.	Define Entity and Entity set. Explain about Strong Entity Sets and Weak Entity Sets with examples.	1	2	10
9.	What are the data models in database system and explain with examples.	1	1	10
10.	Explain relationship and relationship sets with example?	1	2	10

2 Marks Questions

S. No.	**QUESTION**	**CO**	**BL**	**MARKS**
1.	Define database management system	1	1	2
2.	List any eight applications of DBMS.	1	1	2
3.	What are the advantages of using a DBMS?	1		
4.	What is an entity relationship model?	1	1	2
5.	Define the terms i) Entity set ii) Relationship set.	1	1	2
6.	Define single valued and multi valued attributes.	1	1	2
7.	Define null values.	1	1	2
8.	Define the terms i) Key attribute ii) Value set	1	1	2
9.	Define weak and strong entity sets?	1	1	2
10.	Define the terms i) DDL ii) DML.	1	1	2

MODULE – 2				
S. No.	**QUESTION**	**CO**	**BL**	**MARKS**
1.	Explain integrity constraints with suitable examples.	2	2	10
2.	Explain Relational algebra fundamentals with suitable example.	2	2	10
3.	Distinguish between primary key and foreign key with example	2	4	10
4.	Discuss about views in relational model with example.	2	2	10
5.	Describe the usage of null values. Compare various SQL operations with and without null values.	2	2	10
6.	Write notes on Relational Model with an Example	2	2	10
7.	Write a short note on DDL and DML Commands with example.	2	2	10
8.	Explain Basic Form of SQL Query.	2	2	10
9.	Explain Relational Calculus with examples.	2	2	10
10	Discuss about Derived operations in Relational algebra with example.	2	2	10

2 Marks Questions

S. No.	**QUESTION**	**CO**	**BL**	**MARKS**
1.	List the set operations of Relational Algebra.	2	1	2
2.	What is the use of rename operation?	2	1	2
3.	Define domain variable.	2	1	2
4.	Define- relational algebra	2	1	2
5.	What is a SELECT operation?	2	1	2
6.	What is a PROJECT operation?	2	1	2
7.	Define tuple relational calculus.	2	1	2
8.	Define tuple variable.	2	1	2
9.	What is the domain relational calculus?	2	1	2
10.	What is the use of Union and intersection operation?	2	1	2

MODULE – 3				
S. No.	**QUESTION**	**CO**	**BL**	**MARKS**
1.	Discuss about views in relational model with example	3	2	10
2.	What is Join? Explain different types of Joins with Examples.	3	2	10
3.	What SQL construct enables the definition of a relation? What constructs allow modification of relation instances?	3	1	10
4.	Construct a relation schema and write queries for following in SQL Sailors (sid, sname, rating, age) Boats (bid, bname, colour) Reservers (sid, bid, day) i) Find the names of sailors who have reserved boat 103 ii) Find the sid, names of sailors who have reserved a red boat iii) Find the colors of boats reserved by Lubber iv) Find the names of the sailors who reserved a green boat and having age greater than 7 in descending order?	3	3	10
5.	List out relational set operations. Explain in detail.	3	2	10
6.	Explain the concept of Destroying/ altering Tables in Views.	3	2	10
7.	Explain selection and projection with examples in SQL?	3	2	10
8.	Elaborate the concept of Nested queries and correlated queries.	3	2	10
9.	List and explain aggregate functions.	3	1	10

Module 3: 2 Marks Questions

S. No.	**QUESTION**	**CO**	**BL**	**MARKS**
1.	Describe the set operations of relational algebra?	3	2	2
2.	Define all the variants of the join operation?	3	1	2
3.	What are the parts of basic SQL query	3	1	2
4.	What are Nested Queries?	3	1	2
5.	What aggregate operator does SQL support?	3	1	2
6.	Describe the SELECT statement.	3	2	2
7.	How to delete a table from a database?	3	1	2
8.	How to update a table?	3	1	2
9.	How do you use the WHERE clause?	3	1	2
10.	What is a subquery? Provide an example.	3	1	2

MODULE – 4				
S. No.	**QUESTION**	**CO**	**BL**	**MARKS**
1.	Define functional dependency. Explain different types of Armstrong's axioms in functional dependency.	4	1	10
2.	Discuss the following functional dependency i) Trivial FD ii) Fully functional dependency iii) MVD	4	2	10
3.	Define normalization? Explain about normalization process.	4	1	10
4.	What are multi valued dependencies? Explain.	4	1	10
5.	Explain about INF and 2NF with an example.	4	2	10
6.	Write Short Notes on Lossy join and Loss less-join.	4	1	10
7.	Discuss 4 NF and 5 NF with example.	4	2	10
8.	Apply how 3NF rules will predict the relation into a BCNF with examples.	4	3	10
9.	Illustrate dependency preservation property of decomposition with an example.	4	2	10
10.	Discuss the concept of surrogate key with example.	4	2	10

Module 4: 2 Marks Questions

S. No.	**QUESTION**	**CO**	**BL**	**MARKS**
1.	Define Functional Dependency.	4	1	2
2.	What are the uses of functional dependencies?	4	1	2
3.	What is first normal form?	4	1	2
4.	What is 2NF?	4	1	2
5.	Define Boyce-codd normal form.	4	1	2
6.	List the desire properties of decomposition.	4	1	2
7.	What is meant by normalization of data?	4	1	2
8.	Define Trivial Dependency.	4	1	2
9.	What is a decomposition and how does it address redundancy?	4	1	2
10.	Define non-trival dependency.	4	1	2

MODULE – 5				
S. No.	**QUESTION**	**CO**	**BL**	**MARKS**
1.	Define Transaction State. Draw State diagram of a transaction and explain.	5	3	10
2.	Explain about ACID properties.	5	2	10
3.	Elaborate the concept of concurrent execution of transactions.	5	2	10
4.	Discuss timestamp-based protocol for concurrency control.	5	2	10
5.	Explain the concept of recovery and atomicity.	5	2	10
6.	Explain about transaction processing in detail.	5	2	10
7.	How to test serializability of a schedule? Explain with an example.	5	1	10
8.	Compare deadlock prevention, avoidance, and detection. Write advantages and disadvantages for each approach.	5	2	10
9.	Outline the lock based concurrency control with suitable examples.	5	1	10
10.	Define B+ Trees. Explain operations of B+ Trees.	5	2	10

2 Marks Questions

S. No.	**QUESTION**	**CO**	**BL**	**MARKS**
1.	What is concurrency control?	5	1	2
2.	What are the different modes of lock?	5	1	2
3.	Define lock?	5	1	2
4.	Define deadlock?	5	1	2
5.	Define the phases of two phase locking protocol.	5	1	2
6.	Define serial schedule	5	1	2
7.	What is B+ Tree?	5	1	2
8.	What is hashing?	5	1	2
9.	Define Timestamp.	5	1	2
10.	Define concurrent Executions	5	1	2