

Dr. Babasaheb Ambedkar Open University
Term End Examination January – 2026

Course	: MSCDS	Date	: 17/02/2026
Subject Code	: MSCDS-102	Time	: 11:30am to 01:45pm
Subject Name	: Relational Database Management System	Duration	: 02.15 Hours
		Max. Marks	: 70

Section A

Answer the following (Attempt any three) (30)

1. Discuss Architecture of DBMS in detail.
2. List and explain types of Oracle Joins.
3. Write difference between Procedure and Function with example.
4. What is Trigger? Explain various levels of Trigger.
5. Explain PL/SQL Block Structure with figure.

Section B

Answer the following (Attempt any four) (20)

1. List and explain functions of DBMS.
2. Define hierarchical Data model with figure.
3. Define Relational Data Model with advantages and disadvantages.
4. What are characteristics of a Relational Table?
5. Explain Cursor Execution Life Cycle in brief.
6. Define locking in RDBMS and discuss the different types of locks used for concurrency control.

Section C

Part – A (Multiple Choice Questions) (10)

1. A database can best be defined as:
A) collection of programs B) collection of well-organized related data
C) set of application software D) data processing unit
2. The three-level DBMS architecture was proposed by:
A) IBM B) ANSI/SPARC
C) Oracle Corporation D) E.F. Codd
3. Logical data independence refers to the ability to modify:
A) Internal schema without affecting conceptual schema
B) Conceptual schema without affecting external schema
C) Physical storage devices
D) Application hardware
4. In the hierarchical data model, each child record can have:
A) Multiple parents B) No parent
C) Only one parent D) Unlimited owners
5. The relational data model was introduced by:
A) Peter Chen B) E.F. Codd
C) Charles Bachman D) James Martin
6. A primary key must:
A) Contain duplicate values B) Allow NULL values
C) Uniquely identify each record D) Be a foreign key

7. The relational algebra operation that returns only common tuples from two relations is:
A) UNION B) PRODUCT
C) INTERSECT D) DIFFERENCE
8. Entity integrity ensures that:
A) Foreign key must match primary key B) Primary key cannot be NULL
C) All attributes are indexed D) Data is encrypted
9. The Cartesian product of two relations results in:
A) Common records only B) All possible row combinations
C) Only distinct values D) Selected columns only
10. In PL/SQL, exceptions are used to handle:
A) Query optimization B) Runtime errors
C) Data storage D) Backup operations

Part – B (State whether the following statements are true or false)

(10)

- 1 A DBMS provides concurrency control to allow multiple users to access the database simultaneously.
- 2 Data redundancy in a database system improves data consistency.
- 3 In a network data model, a child record can have multiple parent records.
- 4 A weak entity set does not have a primary key of its own.
- 5 Normalization helps in reducing insertion, deletion, and update anomalies.
- 6 In First Normal Form (1NF), repeating groups are allowed.
- 7 A foreign key is used to establish a relationship between two tables.
- 8 The COMMIT statement permanently saves changes made during a transaction.
- 9 Deadlock occurs when two or more transactions wait indefinitely for each other to release locks.
- 10 A view in SQL physically stores data in the database.
