**Time allowed: 90 Minutes Max. Marks: 40**

**General Instructions:**

* **Follow the instructions given in each section.**
* **Make sure that you attempt the questions in order.**

**SECTION-A (10\*1 mark=10 marks)**

***(All questions are compulsory)***

1. Which of the following is the correct definition of a functional dependency in a relational database?
   1. A relationship between two tables
   2. **A constraint that specifies the relationship between attributes in a table**
   3. A set of operations to manipulate data in a table
   4. A technique to optimize query performance in a database
2. In an ER model, a weak entity is one that:
   1. Has a weak relationship with another entity
   2. Lacks attributes
   3. **Depends on another entity for its existence**
   4. Cannot participate in relationships
3. Which type of join returns only the matching rows between two tables?
   1. **Inner join**
   2. Left join
   3. Right join
   4. Full outer join
4. Which SQL clause is used to limit the number of rows returned in a SELECT statement?
   1. **LIMIT**
   2. TOP
   3. ROWNUM
   4. FETCH
5. Which technique is used to prevent unauthorized users from viewing data by altering the database schema?
   1. Access controls
   2. Database encryption
   3. **Data masking**
   4. Database normalization
6. What is the purpose of a cursor's WHERE CURRENT OF clause?
   1. It specifies the condition for closing the cursor.
   2. It specifies the condition for deleting a row from the cursor.
   3. **It specifies the condition for updating the current row of the cursor.**
   4. It specifies the condition for declaring a new cursor.
7. Which control structure is used to transfer the control from a function back to the caller?
   1. BREAK
   2. CONTINUE
   3. EXIT
   4. **RETURN**
8. Which of the following is a common vulnerability in database security?
   1. Buffer overflow
   2. Firewall misconfiguration
   3. Weak encryption algorithm
   4. **All of the above**
9. In the context of functional dependencies, which of the following is the highest normal form?
   1. 1NF (First Normal Form)
   2. 2NF (Second Normal Form)
   3. 3NF (Third Normal Form)
   4. **BCNF (Boyce-Codd Normal Form)**
10. Which normal form eliminates partial dependencies in a relational model?
    1. First normal form (1NF)
    2. Second normal form (2NF)
    3. **Third normal form (3NF)**
    4. Boyce-Codd normal form (BCNF)

**SECTION-B (5\*2 mark=10 marks)**

***(All questions are compulsory)***

1. Snapshot of the data in the database at a given instant of time is called
   1. Database Schema
   2. **Database Instance**
   3. Database Snapshot
   4. All of the above
2. Which of the following is not a DDL command?
3. TRUNCATE
4. ALTER
5. CREATE
6. **UPDATE**
7. Which of the following is true about the HAVING clause?
   1. Similar to the WHERE clause but is used for columns rather than groups.
   2. Similar to WHERE clause but is used for rows rather than columns.
   3. **Similar to WHERE clause but is used for groups rather than rows.**
   4. Acts exactly like a WHERE clause.
8. Which of the following is the correct order of a SQL statement?
   1. SELECT, GROUP BY, WHERE, HAVING
   2. **SELECT, WHERE, GROUP BY, HAVING**
   3. SELECT, HAVING, WHERE, GROUP BY
   4. SELECT, WHERE, HAVING, GROUP BY
9. Which statement is used to get all data from the student table whose name starts with p?
10. SELECT \* FROM student WHERE name LIKE '%p%';
11. **SELECT \* FROM student WHERE name LIKE 'p%';**
12. SELECT \* FROM student WHERE name LIKE '\_p%';
13. SELECT \* FROM student WHERE name LIKE '%p';

**SECTION-C(Coding Question) (4x5 marks=20 marks)**