Duration: 2¹/² Hrs   H219A23DS   Marks: - 75

Note: - 1) All questions are Compulsory.
       2) Figures to the right indicate maximum marks.

Q.1. Attempt any 4 of the following: **(20M)**

1) What is DBMS? Explain features of DBMS.   CO1(R)

2) What is Data model? Explain object based logical model.   CO1(U)

3) Draw an ER diagram for a college.   CO1(U,A)

4) Explain how to convert entity into relational table.   CO2(U)

5) Explain various data types used in SQL.   CO3(U,A)

6) Explain various DML statements with example.   CO3(U,A)

Q.2. Attempt any 4 of the following: **(20M)**

1) What is constraint? Explain Domain relational constraints.   CO2(R,U)

2) Explain String functions with example.   CO3(U,A)

3) What is outer join? Explain left outer join with example.   CO3(A,U)

4) Explain self join with example.   CO3(U,A)

5) What is subquery? Explain with example.   CO3(U,A)

6) Explain following operators of subquery with example: IN, ANY   CO3(U,A)

Q.3. Attempt any 4 of the following: **(20M)**

1) Explain concept of functional dependency.   CO4(U)

2) Explain second normal form (2NF) with example.   CO4(U,R)

3) What is selection operator? Explain with example.   CO4(U,R)

4) Explain various security mechanisms in database.   CO5(U)

5) What are the advantages and disadvantages of views?   CO5(R)

6) Write short note on GRANT privileges?   CO6(R)

Q.4. Attempt any 5 of the following: **(15M)**

1) Differentiate between file system and database system.   CO1(A)

2) Write short note on entity.   CO2(R,U)

3) Explain concept of primary key.   CO2(R,U)

4) Explain ROUND, CEILING and FLOOR functions.   CO3(U)

5) What is decomposition?   CO3(U)

6) Write short note on creating views.   CO5(U)