

4. Solve any **four** sub-questions.

- a) Elaborate Physical Data Models.
- b) What are iterations in PL/SQL? Explain.
- c) Explain the importance of NULL values in a database.
- d) Explain the properties of a transaction.
- e) What is Weak Entity Set? Elaborate.

Time : 3 Hours

Marks : 80

Instructions :

1. All Questions are Compulsory.
2. Each Sub-question carry 5 marks.
3. Each Sub-question should be answered between 75 to 100 words. Write every questions answer on separate page.
4. Question paper of 80 Marks, it will be converted in to your programme structure marks.

1. Solve any four sub-questions.

- a) Write a short note on DML and explain three DML commands. 5
- b) Write a SQL query to select data from a table, order the result by a column, and apply max aggregate functions of the result. 5
- c) Differentiate between data files and databases. 5
- d) What are built in functions? Explain in detail. 5
- e) Differentiate between group by and order by clause. 5

2. Solve any four sub-questions.

- a) Write a short note on Schedule. 5
- b) Explain the process of decomposition and the different types of decomposition. 5
- c) Explain the different types of relationships in an ER model. 5
- d) Explain the concept of metadata in a DBMS. 5
- e) What is de-normalization? Discuss its advantages and disadvantages. 5

3. Solve any four sub-questions.

- a) Elaborate Loss Less Decomposition. 5
- b) What is a Database Management System (DBMS)? Why is it necessary? 5
- c) What is difference between tuple and Record? Explain. 5
- d) Explain any one object-based logical data model in detail. 5
- e) Explain different PL/SQL data types. 5