(3 Hours) [Total Marks:80

1. All questions are compulsory.
2. Draw neat and labelled diagram wherever necessary.
3. Figures to the right indicates full marks.
4. Answer any two out of three: **10**
5. Explain DBMS and its purpose in detail.
6. Explain DML and DDL in detail with examples.
7. What are the advantages of Relational Database Management Systems.
8. Answer any two out of three: **10**
9. Write a short note on Transaction Management in DBMS.
10. What is data model? Explain the hierarchical database.
11. Explain the difference between Delete and Truncate command.
12. Answer any two out of three: **10**
13. What is Normalization? What are its type? Explain in detail.
14. What are different levels of data abstraction.
15. Write a short note of ER diagram with example.
16. Answer any two out of three: **10**
17. What are joins? How many types of joins are there? Explain with example.
18. Explain Constraint in detail with example.
19. Write a short note on Aggregation and Generalization.
20. Answer any two out of three: **10**
21. Explain Primary and Foreign keys with example.
22. Explain ACID properties in DBMS.
23. Explain different types of database users.
24. Answer any two out of three: **10**
25. Explain Group By clause in DBMS with example.
26. List and explain any five aggregation functions in DBMS with example.
27. Explain selection and projection operator in detail.

[TURN OVER

1. Answer any two out of three: **10**
2. What is the difference between Relational Algebra and Relational Calculus.
3. Explain Function and Procedure in detail with example.
4. What are Triggers in DBMS? Write its advantages.
5. Answer any two out of three: **10**
6. Explain the concurrency control.
7. What is composite keys? In reference to that also explain Partial dependency.
8. What are the disadvantages of using lock-based protocols.