

AQ – 2636

Fourth Semester M.C.A. Examination

DATABASE MANAGEMENT SYSTEM

4MCA1

P. Pages : 2

Time : Three Hours]

| Max. Marks : 80

- Note :** (1) Due credit will be given to neatness and adequate dimensions.
 (2) Assume suitable data wherever necessary.
 (3) Illustrate your answer necessary with the help of neat sketches.

1. (a) Give the advantages and disadvantages of database system. 6
- (b) State and explain the different user privileges. 6
- (c) Explain primary key. 2

OR

2. (a) Explain with example different data models. 6
- (b) Draw and explain the database system architecture with all its components. 8
3. (a) Compare the relational algebra and relational calculate. 6
- (b) Explain the set operations in SQL. 7

OR

4. (a) Explain different Join operations in SQL with suitable example. 8
- (b) Explain the structure of relational databases. 5
5. (a) What are the different integrity constraints ? Explain referential Integrity. 6
- (b) What is normalization ? Explain in brief the different normal forms. 8

OR

6. (a) Explain the terms :—
- (i) Functional Dependency.

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- (ii) Decomposition.
- (iii) Assertions
- (iv) Triggers. 12
- (b) Explain BCNF. 2
- 7. (a) What is Query cost ? State the parameters to evaluate the query cost. 4
- (b) Explain the process of query optimization in detail. 9

OR

- 8. (a) Explain the term materialized view state the advantages of materialized view. 7
- (b) Explain with suitable example the evaluation plan for evaluation of expression. 6
- 9. (a) Explain ACID properties of a transaction. 8
- (b) Write and explain the different states of transaction. 5

OR

- 10. (a) Explain conflict and view serializability. 6
- (b) Explain the recoverability of a transaction. 4
- (c) State the importance of atomicity of a transaction. 3
- 11. (a) What are concurrent transactions ? Explain the importance of concurrency control. 7
- (b) Explain time-stamp based working protocol. 6

OR

- 12. (a) What is deadlock ? How does it occur ? Explain deadlock detection and Recovery. 8
- (b) Explain lock-Based and Time-stamp Based protocol. 5