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Code No. : 231

VASAVI COLLEGE OF ENGINEERING (Autonomous), HYDERABAD
M.C.A. II Year I-Semester (Main & Backlog) Examinations, Nov./Dec.-2016

Database Management Systems

Time: 3 hours

Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Part-A (10 × 2 = 20 Marks)

1. Define DML and DDL.
2. Define Data mining and Information retrieval.
3. How to represent the Primary Key and Weak entity set in E-R model?
4. Explain the SOME and IN Operators in SQL with examples.
5. State when triggers are to be used?
6. Explain Functional dependencies with example.
7. What is difference between Indexing and hashing?
8. Explain about durability of transaction.
9. What is log file?
10. What is locking Protocol?

Part-B (5 × 10 = 50 Marks)

(All bits carry equal marks)

11. a) What are the main benefits of using a DBMS to manage data in applications involving extensive access?
b) What is E-R Model? Draw an E-R Diagram for Library Management System.
12. a) What is Relational Model? Distinguish between super key, Candidate key, Primary Key for a relation with examples.
b) Explain the fundamental operations in relational algebra.
13. a) Explain how to implement Triggers in SQL with example.
b) What is Normalization? Explain 3NF, BCNF normal forms with examples.
14. a) What is static hashing? Explain how insert and delete operations are handled in a static hash.
b) Discuss about conflict serializability of transaction with example.
15. a) Explain the *Time Stamp - Based Concurrency Control* protocol. How is it used to ensure serializability?
b) Explain about remote backup system.
16. a) Explain the following:
i) Functions of DBA ii) Query processor
b) What are *NULL* values? Are they supported in relational model? How do they effect the meaning of queries? Can primary key fields of table contain *NULL* values?
17. Answer any *two* of the following:
a) Differentiate functions and procedures.
b) Describe the Insertion and Deletion Operations in B+ trees with examples.
c) Explain about the use of Log to REDO and UNDO transactions.
