

CBCS SCHEME

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18MCA31

Third Semester MCA Degree Examination, July/August 2021 Database Management System

Time: 3 hrs

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. Explain the three-schema architecture of DBMS with neat diagram. (10 Marks)
b. Explain the advantages of using the DBMS approach over the traditional file system approach. (10 Marks)
- 2 a. List and explain the actors on the scene and workers behind the scene. (10 Marks)
b. Explain the centralized and client/server architectures. (10 Marks)
- 3 a. Describe the entity integrity and referential integrity constraints in detail with necessary example. (10 Marks)
b. Describe about the different unary relational operations and binary relational operators. (10 Marks)
- 4 a. Explain about the various notations used in E-R diagram with example. (10 Marks)
b. Describe the steps involved in ER-to-relation mapping with a suitable example. (10 Marks)
- 5 a. Explain about the basic structure of SQL statement with all the clauses. (10 Marks)
b. Explain about views and database authorization. (10 Marks)
- 6 a. Explain about SQL data definition and data types. (05 Marks)
b. Describe about database programming issues and techniques. (10 Marks)
c. Explain in detail about Embedded SQL with example. (05 Marks)
- 7 a. Describe about the informal guidelines for relational schemas. (08 Marks)
b. Define Normalization. Explain about 1NF, 2NF, 3NF and BCNF. (12 Marks)
- 8 a. Explain about functional dependency with example. (05 Marks)
b. What is stored procedure? Explain it with example. (10 Marks)
c. Describe about DML trigger with suitable example. (05 Marks)
- 9 a. Define Transaction. Explain about ACID properties of transaction. (10 Marks)
b. What is a lock? Describe the two-phase locking protocol. (10 Marks)
- 10 a. Describe in detail about deadlock handling. (10 Marks)
b. Explain about recovery and atomicity. (10 Marks)

Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.

