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II Semester M.C.A. Degree Examination, December - 2022

COMPUTER SCIENCE

Data Base Management Systems

(CBCS Y2K20 Scheme)

Paper : 2 MCA 2

Time : 3 Hours

Maximum Marks : 70

Instructions to Candidates:

1. Answer ALL Sections.
2. Answer any FIVE questions from Section-A, each carries SIX marks.
3. Any FOUR questions from Section-B, each carries TEN marks.

SECTION - A

I. Answer any FIVE of the following questions. Each carries 6 marks. (5×6=30)

1. Explain the role and responsibilities of DBA.
2. Describe the three schema architecture of DBMS with a neat diagram.
3. Define relationship. Explain the different types of relationships with example.
4. Write a short notes on indexes on multiple keys.
5. Explain key constraints with examples.
6. Explain Third Normal Form with an example.
7. What are the advantages and disadvantages of VIEWS?
8. Explain the ACID properties of transaction.

SECTION - B

II. Answer any FOUR full questions. (4×10=40)

9. a) Construct an ER diagram for student database. (5)
b) What is data independence? Write the difference between logical and physical data independence. (5)
10. Consider the following Schema and answer the queries. Student (Stdid, Stdname, DOB, Sub1, Sub2, Sub3, Mark1, Mark2, Mark3, Total, GPA, Course)
 - a) Create a table, Insert, update and delete records in the table.
 - b) Find the Students who have Secured same GPA.
 - c) List the Students who born on particular Month.
 - d) List the Number of Students who have scored maximum GPA from the particular course. (10)

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11. a) Write a note on DML and DDL commands with syntax and example. (5)
b) With an example explain SELECTION and PROJECTION operations. (5)
12. a) What is database anomalies? Explain different types of anomalies with example. (5)
b) Define Normalization. Write a note on BCNF. (5)
13. a) Explain ORDER BY, GROUP BY and HAVING CLAUSE with syntax and example. (5)
b) Write short notes on Embedded and Dynamic SQL. (5)
14. a) Describe Two phase locking with an example. (5)
b) Briefly explain the database failure and recovery. (5)
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