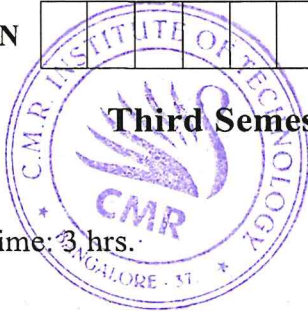


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13MCA352



Third Semester MCA Degree Examination, Aug./Sept. 2020

Advanced Topics in DBMS

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions.

- 1 a. What is an index? Explain three main alternative available for the data entries in an index. (10 Marks)
b. What is RAID system? Discuss striping and its impact on performance and redundancy and its impact on reliability. Explain different level of Redundancy. (10 Marks)
- 2 a. What is Transaction processing? Explain ACID properties of a transaction. (10 Marks)
b. What is the need of recovery? Describe the three phases of the ARIES recovery method. (10 Marks)
- 3 a. What is ISAM indexes? How does an ISAM index handle search and insert record with example. (10 Marks)
b. What is B+ Tree? Explain search and insert Algorithm with example. (10 Marks)
- 4 a. Explain Extendible Hashing. How does handle insert record with example? (10 Marks)
b. Explain Linear Hashing. How does handle insert record with example? (10 Marks)
- 5 a. How does External Merge-sort work? Explain with example. (10 Marks)
b. What is double buffering? What is the motivation for using it? (10 Marks)
- 6 a. Explain Set operations and Aggregate operations with example. (10 Marks)
b. Explain Relational algebra equivalences with example.. (10 Marks)
- 7 a. Explain Query optimization and Query Evaluation plans. (10 Marks)
b. Explain Nested subqueries with example. (10 Marks)
- 8 a. Explain mobile databases and multimedia databases. (10 Marks)
b. Explain Geographical Information systems with applications. (10 Marks)

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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.

