R13

Code No: 813AP

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MCA III Semester Examinations, April/May - 2019
DATABASE MANAGEMENT SYSTEMS

Time: 3 Hours   **Max. Marks: 60**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 20 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 8 marks and may have a, b, c as sub questions.

PART - A

5 × 4 Marks = 20

1.a) Define types of data models and explain briefly in one line each.   [4]
  b) What are set operations?   [4]
  c) Explain BCNF.   [4]
  d) Discuss on Lock based concurrency control.   [4]
  e) What are primary and secondary indexes?   [4]

PART - B

5 × 8 Marks = 40

2.a) What is meant by ER model? Explain how an ER diagram can be converted into relations.
  b) Explain how to destroy/alter Tables and views?   [4+4]

OR

3.a) Write a note on database architecture.
  b) Explain the role of file manager and buffer manager in DBMS.   [4+4]

4. Explain Division in relational algebra.   [8]

OR

5.a) Explain about nested queries and correlated nested queries in the SQL.
  b) What are aggregate operators in SQL? Explain them with suitable examples. [4+4]

6. Discuss the need for schema refinement. Explain the third and fifth normal form and inclusion dependencies.   [8]

OR

7. Describe about the Multi-Valued Dependencies and Fourth normal form with suitable examples.   [8]

8.a) Define these terms: atomicity, consistency, isolation, durability, schedule, blind write, dirty read, unrepeatable read, serializable schedule, recoverable schedule, avoids – cascading - aborts schedule.
  b) Explain about Concurrent execution of transactions.   [4+4]

OR

9.a) Explain Dead lock prevention policies employed in databases.
  b) Briefly discuss write ahead log protocol.   [4+4]

10. Define the Tree structured Indexing Hash based indexing with simple illustrations. [8]

OR

11. Explain the File organization types and its techniques.   [8]

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