R13

Code No: 813AP

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MCA III Semester Examinations, June/July - 2018
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) For what reasons database management system is preferred over file system?   [4]
  b) What is the use of outer join? Give its types.   [4]
  c) Define multi valued dependency.   [4]
  d) Suggest any one mechanism for media recovery.   [4]
  e) Define track, sector, cylinder of disk.   [4]

PART - B

5 × 8 Marks = 40

2. How does database management system provide data abstraction? Explain with illustrations.   [8]

OR

3. Construct an ER diagram to design a database for online movie ticket booking application such as bookmyshow.com.   [8]

4. Consider the following database schema to write queries in Relational Algebra.
            Student (Sid, Sname, total_credits)
            Course(Cno, Ctitle, Number_of_credits)
            Enroll(Sid, Cno, Grade)
    (a) Find the students' names who secured "A" grade in DBMS course.
    (b) Find the titles of the courses which do not have enrollment of any student.   [4+4]

OR

5. What is an assertion? How to define assertion in SQL? Explain with suitable example.[8]

6. Describe the need of schema refinement. What is the effect on database if this phase is skipped by the designers?   [8]

OR

7.a) How to compute the attribute closure?
  b) What is meant by partially functional dependent?   [4+4]

8. What is a transaction? What is a schedule? What is meant by serializability? Quote examples for all these.   [8]

OR

9. List the different types of failures and explain log based recovery for concurrent transactions.   [8]

10. Make a comparison of the three file organizations- heap, sorted, hash.   [8]

OR

11. Demonstrate bulk loading of B+ tree. Consider suitable student data records and construct B+ tree structure.   [8]

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