

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? [4+4]
- b) What is meant by partially functional dependent?

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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