

Code No: 5158L

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

M.Tech II Semester Examinations, October-2015

ADVANCED DATABASES

(Computer Science and Engineering)

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) Give the steps of query processing in query evaluation engine. [4]
- b) What are the properties of decomposition? [4]
- c) How to test the serializability of a schedule? [4]
- d) What is the significance of cylinder in disk organization? [4]
- e) List the types of transactions in distributed databases. [4]

PART - B

5 × 8 marks = 40

2. What is meant by Data independence? Why is it necessary in DBMS? Explain its types with illustrations. [8]

OR

- 3.a) List the variants of join operation.
- b) Explain the usage of specialization/generalization concept in ER Diagram. [4+4]

4. What is the need of schema refinement? Briefly discuss this phase in database design process. [8]

OR

5. Describe the concept of canonical cover with an example. [8]

6. What is the objective of concurrent execution of transactions? Discuss the conflicts among concurrent transactions. [8]

OR

7. Discuss various types of failures. Suggest any two mechanisms to recover from the damage due to failures. [8]

8. Is Indexed Sequential Access Method a dynamic indexing structure? Justify your answer. [8]

OR

9. Create an extendible hashing index structure for the following data records whose key is mentioned. A bucket can hold three records.
{5*, 9*, 11*, 15*, 18*, 21*, 23*, 19*, 16*, 32*, 25*, 13*}. [8]

10. Compare the features of centralized database system with distributed database systems. [8]

OR

11. How to handle query processing in distributed environment? Discuss translation of global query to local queries. [8]