

# FACULTY OF ENGINEERING

## B.E. 3/4 (CSE) I Sem. Suppl. Examination

June - 2008

### Subject : Data Base Management System

Time : 3 hours ]

[Max. Marks : 75

Note : (a) Answer **all** questions from Part-A and

(b) Answer **five** questions from Part-B.

#### PART - A (25 marks)

1. What is meant by 'Data Abstraction' ? Explain. 3
2. Briefly explain about 'Weak Entity'. 2
3. Describe about 'Domain Constraints'. 3
4. Explain when a relation is said to be in First Normal Form. 2
5. List and explain about various steps in 'Query Processing'. 3
6. Briefly explain about 'Pinned Record'. 2
7. Explain how to transform a Relational Expression. 3
8. Draw and explain 'State Diagram of a Transaction'. 2
9. What is meant by 'Database Buffering' ? Explain. 3
10. Explain about 'Stable Storage'. 2

#### PART-B (5×10=50 marks)

11. (a) Describe about 'Storage Manager'. 5
- (b) Explain how to reduce E-R diagrams to tables. 5
12. (a) Explain about the following 3+3
  - (i) Security
  - (ii) Third Normal Form
- (b) Differentiate between 'group by' and 'order by' clauses in SQL. 4

13. (a) Construct the B+Tree and B-Tree for the following set of search key values where a node in the tree can accommodate three pointers. 3+3  
15      25      35      45      55      65      75      85  
(b) Describe about 'Dynamic Hashing'. 4
14. (a) Describe about 'ACID Properties'. 4  
(b) Explain the following 3+3  
(i) Conflict Equivalent  
(ii) Catalog Information
15. (a) Describe about 'Immediate Database Modification.' 4  
(b) Explain the following. 3+3  
(i) Transaction Rollback  
(ii) Parallel Database Architecture
16. (a) What is the functionality of following operations in Relational Algebra ? 6  
Rename                      Division                      Natural-Join  
(b) Explain how to design the database. 4
17. Write short notes on any two of the following. 5+5  
(a) Encryption  
(b) Assertions  
(c) Distributed Systems
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