

# FACULTY OF ENGINEERING

BE 3/4 (CSE) I Semester (Suppl.) Examination

May / June - 2007

Subject : Data Base Management Systems

Time : 3 hours]

[Max. Marks : 75

Answer all questions of Part-A and answer  
any Five questions from Part-B

## PART-A (25 marks)

1. Distinguish between a file processing system and a DBMS. 3
2. Explain the difference between a weak and strong entity set. 3
3. State the Thomas write rule ? Mention its importance in transaction processing. 3
4. What are the major problems with processing update operations expressed in terms of views. 3
5. State the differences between lock based protocol and time stamping protocol. 3

6. State BCNF. 2
7. What is QBE ? 2
8. When is it preferable to use a dense index rather than a sparse index. 2
9. Explain the distinction between the terms serial schedule and serializable schedule. 2
10. What are the different modes of lock ? 2

**PART - B (5x10=50 Marks)**

- 11 (a) What are the five main functions of a database administrator ? 5
- (b) Define the concept of aggregation with an example. 5
- 12 (a) List the ACID properties. Explain the usefulness of each. 5
- (b) Explain the two phase locking protocol. 5
13. Explain the disk organization technique RAID in detail. 10
14. Identify three typical lists of transactions that are maintained by the recovery sub-system. 10

- 15(a) Explain the difference between the three storage types. Volatile, nonvolatile and stable. 5
- (b) Discuss various types of inner join operations. 5
- 16 (a) How does index locking resolve the phantom problem ? 5
- (b) What is a phantom record ? Discuss the problem that a phantom record can cause for concurrency control. 5
17. Write short notes on the following : 5x2=10
- (a) Client Server Architecture
- (b) Tuple relational calculus.