

**FACULTY OF ENGINEERING****B.E. 3/4 (CSE) I-Semester (New) (Main) Examination, November / December 2012**Subject : **Database Management Systems**Time : **3 Hours**Max. Marks: **75****Note:** Answer **all** questions of Part - A and answer any **five** questions from Part-B.**PART – A (25 Marks)**

1. What are the responsibilities of DBA? (3)
2. What is Data abstraction? (2)
3. Differentiate between file system and data base system. (3)
4. What is Foreign key? (2)
5. Explain 'Natural-Join' operation in relational algebra with an example. (3)
6. What is dynamic SQL? (2)
7. What is Normalization? (2)
8. Define ACID properties. (3)
9. Define check point. Where it is used. (2)
10. Explain recoverable schedule. (3)

**PART – B (5x10=50 Marks)**

- 11.(a) Draw and explain 'Database Architecture'. (6)
- (b) What are different Database languages and explain. (4)
- 12.(a) Explain the concept of generalization, specialization and aggregation with example. (6)
- (b) Discuss about 'Nested Sub Queries'. (4)
13. What is Normalization? Explain the concept of functional dependencies in normal forms with example. (10)
- 14.(a) What are bit map indices? How they are useful? (4)
- (b) Explain the concept of 'conflict serializability' with an example. (6)
- 15.(a) Define hashing. Explain different hashing techniques with an example. (6)
- (b) Explain Recoverability in Transactions. (4)
- 16.(a) Describe about 'Thomas' write rule. (4)
- (b) Discuss about Time-Stamp based protocols and validation-based protocols. (6)
17. Write short notes on : (4+3+3)
  - (a) Multiple granularity
  - (b) ARIES
  - (c) Storage structure

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