

**Roll No. ....**

**Total Pages : 02**

**BT-3/D-20**

**43082**

**DATA BASE MANAGEMENT SYSTEM**

**CSE-205N/IT-201N**

**Time : Three Hours]**

**[Maximum Marks : 75]**

**Note :** Attempt *Five* questions in all, selecting at least *one* question from each Unit.

### **Unit I**

1. What do you mean by mapping ? Discuss the role of mapping in 3 Layer architecture of DBMS as proposed by ANSI-SPARC. How does this architecture achieve data independence ? **15**

2. (i) Discuss the role of ER diagrams in DBMS. Explain weak entity set with example. **8**  
(ii) Discuss various languages used in DBMS. **7**

### **Unit II**

3. (i) Explain select, project, union, product and join operations of relational algebra with example. **8**  
(ii) What do you mean by views ? How are views created and dropped ? **7**

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4. Write short notes on the following : **3×5=15**
- (i) Nested sub-queries
  - (ii) Assertions
  - (iii) Stored procedures.

### **Unit III**

5. What is normalization ? Discuss the need of normalization. Explain the normal forms based on full and partial functional dependency and multi-values dependency. **15**
6. (i) Differentiate statistics and cost based optimization with example. **7**  
(ii) Discuss various steps involved in recovery management. **8**

### **Unit IV**

7. Write short notes on the following : **2×7.5=15**
- (i) Commit and Lock
  - (ii) Locking system with several lock modes.
8. (i) Discuss the strategies to protect media failures. **8**  
(ii) What are serial and serializable schedules ? Give example. **7**

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