

**B TECH****(SEM V) THEORY EXAMINATION 2017-18  
DATABASE MANAGEMENT SYSTEM****Time: 3 Hours****Total Marks: 100****Notes:** Attempt all Sections. Assume any missing data.**SECTION-A**

1. Attempt all questions of the following:

**(10×2=20)**

- Explain Specialization.
- Write Advantages of Database.
- Define DML.
- Explain Logical data Independence.
- Explain Entity Integrity Constraints.
- Define 2 NF.
- Explain I in ACID Property.
- Define schedule.
- Define Exclusive Lock.
- Define replication in distributed database.

**SECTION-B**2. Attempt any **Three** of the following:**(10×3=30)**

- Discuss the role of database administrator.
- Discuss Join and Types with suitable example.
- What is Trigger? Explain different trigger with example
- Write difference between BCNF Vs 3 NF.
- What is Two phase Locking (2PL)? Describe with the help of example.

**SECTION-C**3. Attempt any **One** of the following:**(10×1=10)**

- What do you mean by serializability? Discuss the conflict and view serializability with example. Discuss the testing of serializability also.
- What are multi version schemes of concurrency control? Describe with the help of an example. Discuss the various Time stamping protocols for concurrency control also.

4. Attempt any **One** of the following:**(10×1=10)**

- Consider the following relation. The Primary key is Rollno, Isbn, Student(RollNo, Name, Branch), Book(Isbn, Title, Author, Publisher) Issue(Rollno, Isbn, te\_of\_issue). Write the query in Relational algebra and SQL of the following-
  - List the Roll Number and Name of All CSE Branch Student.
  - Find the name of students who have issued a book of publication 'BPB'.
  - List the title and author of all books which are issued by a student name started with a.
  - List the title of all books issued on or before 20/09/2012.
  - List the name of student who will read the book of author named 'Sanjeev'.
- Draw an ER diagram of Hospital or Bank with showing the Specialization, Aggregation, Generalization. Also convert it in to relational schemas and SQL DDL.



5. Attempt any **One** of the following: (10×1=10)

- a) Explain the Primary Key, Super Key, Foreign Key and Candidate key with example.
- b) Short Notes of the Following-
  - i) MVD or JD
  - ii) Normalization with advantages

6. Attempt any **One** of the following: (10×1=10)

- a) What is Log? How is it maintained? Discuss the features of deferred database modification and immediate database modification in brief.
- b) What do you mean by Transaction? Explain transaction property with detail and suitable example.

7. Attempt any **One** of the following: (10×1=10)

- a) Explain all database languages in detail with example.
- b) Explain data fragmentation with types.

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