

**SHAHEED BHAGAT SINGH STATE TECHNICAL CAMPUS,  
FEROZEPUR**

**ROLL NO :**

Total number of pages:[2]

Total number of questions: 06

**B-Tech. CSE/ 5<sup>th</sup> Sem**

## Relational Data Base Management System-I

Subject Code: BTCS-502 (RP)

Paper ID: M18

(2011-2014 batch)

**Time allowed: 3 Hrs**

Max Marks: 60

### Important Instructions:

- All Questions are compulsory.
- Assume any missing data.

**Section-A (2×10)**

Q1) Answer in brief:

- What is the use of Primary Key?
- Define BCNF?
- What are Views? How it provides Security?
- Describe GRANT and REVOKE Command?
- Give example of query of Group By Clause and having Clause?
- Differentiate between Strong Entity set and Weak Entity Set?
- Define Hashing and Indexing? Explain Sparse Index?
- Describe various symbol used in E-R Diagram?
- Differentiate between Row Trigger and Statement Trigger?
- Define ACID properties?

## Section-B (8×5)

Q2) What is an E-R Diagram? Construct a E-R Diagram for a Hospital with a set of Patients and set of Doctors. Associate with each Patient a log of various tests and examination Conducted? (CO1)

OR

Draw a E-R Diagram for a Bank? Each Bank have multiple branches and each branch can have multiple accounts and loans? List all the entities and Relationships between them? Also list all the constraints. State all the Assumptions made. (CO

Q3) Explain Hashing and Indexing? Differentiate between Primary and Secondary Indexes? (CO2)

OR

Explain entity integrity and referential integrity rules in relational model.

Show how these are realized in SQL?

(CO2)

Q4) What is Relational Algebra? Explain its various operations in detail? (CO3)  
OR  
Explain various aggregate operations used in SQL with examples? (CO3)

Q5) What is Functional Dependency? Explain trivial and non-trivial functional Dependency with example? (CO4)

OR

Explain 4NF and 5NF with example? Would you prefer BCNF over 3NF? Justify your answer? (CO4)

Q6) What is Concurrency Control? Explain different types of Locks used in Concurrency Control? (CO5)

OR

What is Database Protection? Explain various types of Security techniques used in RDBMS? (CO5)

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