Revision 02

# Questions Summary & Analysis

# Database System - 2025

## Contents



## How to?

**Bold texts** were included in previous years questions.
***** mark represents repentance amount.
~~Strike-through~~ refers to out of syllabus.
Highlighted texts are something I didn't find in materials, so help me to find it :)

## Question Sets considered

1. Session 20-21
2. Session 19-20
3. Session 18-19
4. *Mid-questions (secondary)*

By no means, **this is any sorts of suggestions**. Just a quick **overview**!
Nothing more, nothing less :)
And yah, can be **inaccurate**! Feel free to **criticize**.

# Shobuj Sir (x3)

## Chapter 1 (Introduction)

1. Various properties of DBMS
2. Five responsibility of data management system
3. Concurrency
4. Database approach vs file approach *
5. Why DB uses declarative query language instead of providing lib of procedure language
6. SQL vs MySQL vs SQL Server *
7. Password security in database
8. Purposes of database system
9. Levels of abstraction in database systems
10. DBMS vs RDBMS
11. NoSQL
12. 3V of big data (volume, variety, velocity)

## Chapter 2 (Introduction to the Relational Model)

1. Primary vs cadidate vs foreign vs super key *
2. List 2 reasons why NULL values might be introduced into a database
3. CHAR vs VARCHAR
4. Schema diagram of university
5. Relational Algebra
   - ✔ select
   - ✔ project
   - ✔ Cartesian-product
   - ✔ join
   - ✔ set

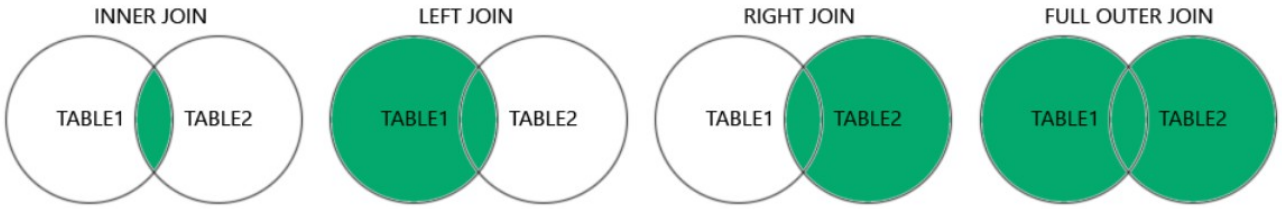
## Chapter 3 (Introduction to SQL)

1. Queries condition check
2. Like operator with lower() function to use case-insensitive matching
3. WHERE vs HAVING clause
4. DBMS Queries
   - Select
   - Where
   - Join
   - Group by

- Not in/ exists
- Aggregate functions
- Insertion

## Chapter 4 (Intermediate SQL)

1. Violation of foreign key while inserting or deleting
2. SQL constrains and integrity constrains **
3. DBMS Queries
   - Natural Join
   - Inner, left, right and full outer join




## Chapter 5 (Advanced SQL)

*No data!*

## Chapter 9 (Application Development)

1. 3 schema architecture
2. SQL injection

## Chapter 17 (Transactions)

1. ACID property *
2. Transition states
3. Transaction property
4. Transaction schedule
5. Serializable and conflict serializable
6. “A schedule is called conflict serializability if after swapping of non-conflicting operations, it can transform into a serial schedule”
7. Read committed and repeatable read isolation
8. Snapshot isolation

# Murad Sir (x3)

## Chapter 6

1. ER diagram of Batch management system
2. ER diagram for the University Management system
3. Different types of keys *
4. Normalization **
5. Various types of attribute with example **
6. Total and partial participation
7. Weak entity set
8. “The Cardinality ratio of a relationship can affect the placement of relationship attributes”

## Oracle database

### Chapter 5 (The Basic Parts of Speech in SQL)

1. Select, where

### Chapter 18 (Basic Oracle Security)

1. Expired vs locked account
2. PASSWORD_REUSE_TIME vs PASSWORD_REUSE_MAX – mutually exclusive

### Chapter 30 (Triggers)

1. Statement level trigger – BEFORE DELETE
2. Why and which cases triggers can be used
3. System privilege required to create a trigger on a table