

Questions Summary & Analysis

Database System - 2025

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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) – check slide!

Chapter 2 (Introduction to the Relational Model)

1. Primary vs candidate 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
 - ✓ set

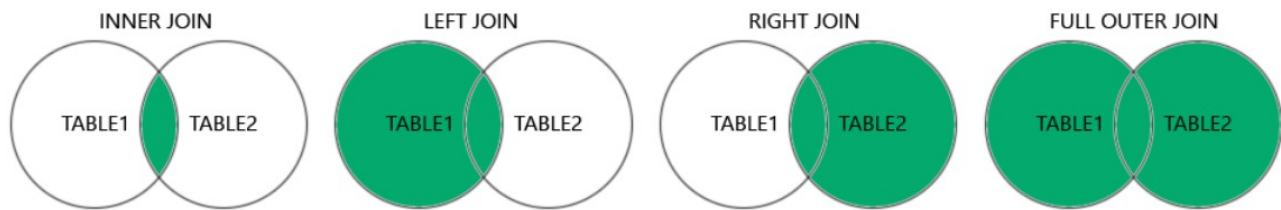
Chapter 3 (Introduction to SQL)

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 constraints and integrity constraints **
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