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
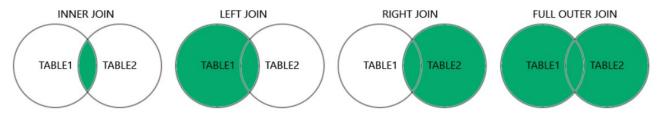   - ✔ project
   - ✔ Cartesian-product
   - ✔ join
   - ✔ set

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