

## DBMS – 2012 CAPP (6)

1)

- a. What are the main characteristics of database approach and how does it differ from the traditional file systems? Discuss.
- b. Give examples of systems in which it makes sense to use traditional file processing instead of database approach.

2)

- a. What is the difference between logical data independence and physical independence? Which one is harder to achieve? Why?
- b. Explain the three-tier client/server architecture. Where is it used?

3)

- a. What is a relationship type? Explain the differences among a relationship instance, a relationship type and a relationship set.
- b. What is the difference between specialization and generalization? Why do we not display this difference in schema diagrams?

4)

- a. Discuss the main differences between the notation for EER schema diagrams and UML class diagrams by comparing how common concepts are represented in each.
- b. Discuss the entity integrity and referential integrity constraints. Why is each considered important?

5)

- a. What role does the concept of foreign key play when specifying the most common types of meaningful join operations?

b. Discuss the various types of inner join operations. Why is theta join required?

6)

a. Give an example that depicts the conversion of an M:N relationship to relational database schema.

b. Is it possible to successfully map an M:N relationship type without requiring a new relation? Why or why not ?

7)

a. Describe the concept of a cursor and how it is used in embedded SQL.

b. What is ODBC ? How is it related to SQL/CLI ? Is JDBC an example of embedded SQL or of using function calls ?

8)

a. What is multivalued dependency ? What type of constraint does it specify ? When does it arise ?

b. How is the concept of serializability useful for concurrency control ?

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