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National University of Computer & Emerging Sciences
FAST-Karachi Campus
Database Systems (CS204)
Quiz#1

Dated: August 30, 2016 Marks: 30
Time: 30 min.
Std-ID: ____Sol_____

Question No. 1 Fill the blanks with the appropriate information. [1X10]

1. The _____internal schema __ describe the physical storage structure of a database.
2. The capability to change conceptual schema without changing external schema is termed as ____logical data independence_____.
3. The database option can be used to support multiple __views__ of the data.
4. The concurrency control module is responsible for ___concurrent_____ users of the database.
5. The _____Transaction & lock manager __ is the main module for handling transaction within a database.
6. The _redundancy___ is termed as multiple copies of the same data.
7. A typical database represents some aspect of _____real world____.
8. The description of a database is called its ___Schema_____.
9. There are three level of ____schemas _____ in RDBMS.
10. The requirement to change in physical schema is due to __performance reasons __.

Question No. 2 Define the following terms? [2.5X4]

Data	Raw facts about an entity.
Snapshot	Database instance at a particular point of time, generally related to business milestone.
Data Independence	Data independence means freedom to change any organized collection of data without any issue, three schema architecture explain the data independence in database systems.
Transaction & lock manager	A module in DBMS that is responsible for executing concurrent transactions of multiple users with shared access on data without any issue.

Question No. 3 Appropriately match the columns. [10]

Column A	Column B
1. Data	a. Systems Catalog 10
2. Redundancy	b. Data Independence 8
3. Extension	c. Document Type Definition (DTD) 6
4. Instance of a database	d. Scheme 3
5. Intention	e. Data in database at some point of time 4
6. XML Database	f. Raw facts about any entity 1
7. Multi Users	g. Data in a database 3
8. Three schema architecture	h. Concurrent access 7
9. Network DBMS	i. Graph Database 9
10. Metadata	j. Multiple copies of data 2

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Question No. 1 Outline at least five major differences between the following? [10 Points]

Database System	**File-Based Systems**
-Redundancy control - multiple users can access data - ability to query via SQL - backup and recovery supports - rapid application development	- No control on Redundancy - Single user access - No standard query access - No provision for backup and recovery for file systems - Application developers have to write the complete data access routines

Question No. 2 Indicate whether True or False (10 Points)

1. A database system is a combination of a DBMS and database. T
2. External view of a database system is how different users see the data from database. T
3. Logical data independence is easy to achieve. T
4. Three schema architecture is used to define different ways of interacting from a database. F
5. Physical data independence means we can change improve the performance of a database management system. F
6. Database schemas generally change very frequently. F
7. Database instance changes with select, update and delete operations. F
8. A schema describes the collection of data in a database. F
9. System catalog stores data. F
10. An underlying data model describes how data is transported between a DBMS engine and a database. T

Question No. 3 Appropriately match the columns. [10 Points]

Column A	Column B
1. Data	a. Systems Catalog 10
2. Redundancy	b. Data Independence 8
3. Extension	c. Tree Database 6
4. Instance of a database	d. Scheme 5
5. Intention	e. Data in database at some point of time 4
6. XML Database	f. Raw facts about any entity 1
7. Multi Users	g. Data in a database 3
8. Three schema architecture	h. Concurrent access 7
9. Network DBMS	i. Graph Database 9
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