

**File 2 of 4**

**Grand Quiz**

**Cs403 - DBMS**

**Solved by John**

**Correct Answers with references = 23**

**Not sure = 7**

### CS403:Grand Quiz

Question # 1 of 30 ( Start time: 01:07:01 AM, 09 July 2020 )

Each component of DBMS performs \_\_\_\_ functions.

Grand Quiz  
Cs403 - DBMS  
Solved by John

Select the correct option

- |                                  |               |
|----------------------------------|---------------|
| <input type="radio"/>            | Similar       |
| <input checked="" type="radio"/> | Different     |
| <input type="radio"/>            | Identical     |
| <input type="radio"/>            | Computational |

is used to manage the database and its users. A DBMS consist of different components or subsystem that we will study about later. Each subsystem or component of the DBMS performs different function(s), so a DBMS is collection of different programs but they all work jointly to manage the data stored in the database and its users. In many books and

Question # 2 of 30 ( Start time: 01:08:37 AM, 09 July 2020 )

If an entity is linked with itself, then it is called \_\_\_\_\_ relationship.

Grand Quiz  
Cs403 - DBMS  
Solved by John

Select the correct option

<input type="radio"/>	Binary
<input type="radio"/>	Ternary
<input type="radio"/>	Nary
<input checked="" type="radio"/>	Recursive

Not sure

### Boyce - Codd Normal Form

A relation is in Boyce-Codd normal form if and only if every determinant is a candidate key. A relation R is said to be in BCNF if whenever  $X \rightarrow A$  holds in R, and A is not in X, then X is a candidate key for R. It should be noted that most relations that are in 3NF are also in BCNF. Infrequently, a 3NF relation is not in BCNF and this happens only if

- (a) the candidate keys in the relation are composite keys (that is, they are not single attributes),
- (b) there are more than one candidate keys in the relation, and
- (c) the keys are not disjoint, that is, some attributes in the keys are common.

The BCNF differs from the 3NF only when there are more than one candidate keys and the keys are composite and overlapping. Consider for example, the relationship:

CS403:Grand Quiz

Question # 4 of 30 ( Start time: 01:11:55 AM, 09 July 2020 )

A relational database is

Grand Quiz  
Cs403 - DBMS  
Solved by John

Select the correct option

- |                                  |   |
|----------------------------------|---|
| <input type="radio"/>            | one that consists of two or more tables                                       |
| <input type="radio"/>            | a database that is able to process tables, queries, forms, reports and macros |
| <input checked="" type="radio"/> | one that consists of two or more tables that are joined in some way           |
| <input type="radio"/>            | the same as a flat file database  |

Confirm it

Question # 5 of 30 ( Start time: 01:14:02 AM, 09 July 2020 )

Which of the following describes the job of a database administrator?

Grand Quiz  
Cs403 - DBMS  
Solved by John

Select the correct option

- |                                  |  |
|----------------------------------|--|
| <input type="radio"/>            | Development, implementation operation of the physical database                           |
| <input type="radio"/>            | Creation of the system catalog   |
| <input checked="" type="radio"/> | Monitoring and controlling database security and authorization: Setting up controls to e |
| <input type="radio"/>            | All of the above   |

Not sure

Question # 6 of 30 ( Start time: 01:15:41 AM, 09 July 2020 )

Which of the following Data Model is not record based?

Select the correct option

<input type="radio"/>	Hierarchical Data Model
<input type="radio"/>	Network Data model
<input checked="" type="radio"/>	Semantic Data Model
<input type="radio"/>	Relational Data model

Grand Quiz  
Cs403 - DBMS  
Solved by John

- Record Based Data Model

This is the second type of data models available to use and has three

- Hierarchical Data Model
- Network Data model
- Relational Data model

Question # 7 of 30 ( Start time: 01:17:05 AM, 09 July 2020 )

Theta join is denoted mathematically as \_\_\_\_\_.

Select the correct option

- |                                  |                      |
|----------------------------------|----------------------|
| <input type="radio"/>            | $R \times S$         |
| <input type="radio"/>            | $R \times \theta$    |
| <input checked="" type="radio"/> | $R \times \theta S$  |
| <input type="radio"/>            | $R \times \theta RS$ |

Grand Quiz  
Cs403 - DBMS  
Solved by John

### Theta Join:

In theta join we apply the condition on input relation(s) rows are used in the cross product to be merged and inc that in normal cross product all the rows of one relation the rows of second relation, but here only selected rows product with second relation. It is denoted as under: -

$$R \times \theta S$$

Question # 8 of 30 ( Start time: 01:18:31 AM, 09 July 2020 )

When one entity instance needs instance of another entity for its existence, then it is called \_\_\_\_\_.

Select the correct option

<input checked="" type="radio"/>	Existence dependency
<input type="radio"/>	Identifier dependency
<input type="radio"/>	Referential dependency
<input type="radio"/>	Acceptance dependency

Grand Quiz  
Cs403 - DBMS  
Solved by John

## Existence dependency

The **Existence** dependency:

This is the type of dependency which **exists when one entity instance need instance of another entity for its existence.**

Question # 10 of 30 ( Start time: 01:22:19 AM, 09 July 2020 )

Which of the following tool is used to design conceptual database design?

Select the correct option

- |                                  |                                       |
|----------------------------------|---------------------------------------|
| <input type="radio"/>            | SQL                                   |
| <input type="radio"/>            | MS Access                             |
| <input type="radio"/>            | Oracle                                |
| <input checked="" type="radio"/> | This model is independent of any tool |

Grand Quiz  
Cs403 - DBMS  
Solved by John

## Conceptual Database Design

The outcome of analysis phase is the conceptual database design through E-R model. This design is independent of any tool and can be implemented in multiple data models like network, relational, and object-oriented.



Question # 11 of 30 ( Start time: 01:23:53 AM, 09 July 2020 )

Internal schema/view defines the \_\_\_\_\_ of the data.

Select the correct option

<input type="radio"/>	Functionality
<input type="radio"/>	Source
<input checked="" type="radio"/>	Structure
<input type="radio"/>	Transaction

Grand Quiz  
Cs403 - DBMS  
Solved by John

Internal level implements all the inner details and defines the intentions of the database. Internal schema or view defines the structures of the data and controls related activities in the database. For example it defines that for a student

p.125

Question # 12 of 30 ( Start time: 01:25:45 AM, 09 July 2020 )

"Select" and "project" are the examples of

Select the correct option

<input checked="" type="radio"/>	Unary operations
<input type="radio"/>	Binary operations
<input type="radio"/>	Ternary operations
<input type="radio"/>	Nary operations

Grand Quiz  
Cs403 - DBMS  
Solved by John

p.148

**Unary Operations:**

These are those operations, which involve only one relation or table. These are Select and Project

Question # 13 of 30 ( Start time: 01:27:23 AM, 09 July 2020 )

Logical database design, like conceptual database design is our\_\_

Select the correct option

<input type="radio"/>	Data model
<input type="radio"/>	Weak entity set
<input type="radio"/>	Strong entity set
<input checked="" type="radio"/>	Database design

Grand Quiz  
Cs403 - DBMS  
Solved by John

From this lecture we are going to discuss the logical database design phase of the database development process. Logical database design, like conceptual database design is our database design; it represents the structure of data that we need to store to fulfill the requirements of the users or organization for which we are developing the system. However there are certain differences between the two that are presented in the table below.

Question # 14 of 30 ( Start time: 01:29:22 AM, 09 July 2020 )

The Three levels architecture is useful for \_\_\_\_\_.

Select the correct option

- ☐ Arranging the data in an organized manner.
- ☒ Hiding the details of internal systems.
- ☐ Breaking the data access restriction.
- ☐ Storing definitions of the structures.

Grand Quiz  
Cs403 - DBMS  
Solved by John

p.32

level, which is stored in a specific format at the internal level.

The Three levels architecture is useful for hiding the details of internal s

Question # 15 of 30 ( Start time: 01:31:04 AM, 09 July 2020 )

In \_\_\_\_\_, the domains of attributes of a relation are atomic, that is they consist of single units that cannot be broken down further.

Select the correct option

<input checked="" type="radio"/>	First normal form
<input type="radio"/>	Second normal form
<input type="radio"/>	Third normal form
<input type="radio"/>	Augmentation

Grand Quiz  
Cs403 - DBMS  
Solved by John

p.167

### First Normal Form:

A relation is in first normal form if and only if every attribute is single valued for each tuple. This means that each attribute in each row, or each cell of the table, contains only one value. No repeating fields or groups are allowed. An alternative way of describing first normal form is to say that the domains of attributes of a relation are atomic, that is they consist of single units that cannot be broken down further. There is no multivalued (repeating group) in the relation multiple values create problems performing operations like select or join. For Example there is a relation of Student

Question # 16 of 30 ( Start time: 01:32:40 AM, 09 July 2020 )

Binary relationships are those, which are established between

Select the correct option

<input type="radio"/>	One entity type
<input checked="" type="radio"/>	Two entity type
<input type="radio"/>	Three entity type
<input type="radio"/>	Unlimited entities

Grand Quiz  
Cs403 - DBMS  
Solved by John

## Binary Relationships

Binary relationships are those, which are established between two entity type.

Following are the three types of cardinalities for binary relationships:

Question # 17 of 30 ( Start time: 01:33:56 AM, 09 July 2020 )

Which is not correct according to Data Flow Diagrams?

Select the correct option



DFDs show the flow of data between different processes of a specific system.



DFDs are simple, and hide complexities.



DFDs provide us a way of expressing decision points.



DFDs are Descriptive and links between processes describe the information flow.

Grand Quiz  
Cs403 - DBMS  
Solved by John

p.56

### Data Flow Diagrams:

The most common tool used for designing database systems is Data Flow Diagrams. It is used to design systems graphically and expresses different system design levels.

DFDs show the flow of data between different processes of a specific system.

DFDs are simple, and hide complexities.

DFDs are Descriptive and links between processes describe the information flow.

Question # 18 of 30 ( Start time: 01:35:25 AM, 09 July 2020 )

Which of the following is an advantage of using the Traditional File Organization?

Select the correct option

<input type="radio"/>	Time consuming
<input checked="" type="radio"/>	Data security
<input type="radio"/>	Simplicity
<input type="radio"/>	Efficiency

Grand Quiz  
Cs403 - DBMS  
Solved by John

Not sure



Question # 19 of 30 ( Start time: 01:37:15 AM, 09 July 2020 )

The Select operation works horizontally on the table, on the other hand the \_\_\_\_\_ operates on a single table vertically.

Select the correct option

<input type="radio"/>	Binary operator
<input checked="" type="radio"/>	Project operator
<input type="radio"/>	Join operation
<input type="radio"/>	Select Operator

Grand Quiz  
Cs403 - DBMS  
Solved by John

p.150

### The Project Operator

The Select operation works horizontally on the table on the other hand the **Project operator operates on a single table vertically**, that is, it produces a vertical table extracting the values of specified columns eliminating d

Question # 20 of 30 ( Start time: 01:38:24 AM, 09 July 2020 )

In your opinion, why relational database is widely acceptable?

Select the correct option

- |                                  |                         |
|----------------------------------|-------------------------|
| <input type="radio"/>            | Due to its complexity   |
| <input type="radio"/>            | Due to its approach     |
| <input type="radio"/>            | Due to its dependencies |
| <input checked="" type="radio"/> | Due to its strength     |

Grand Quiz  
Cs403 - DBMS  
Solved by John

Not sure

Question # 21 of 30 ( Start time: 01:40:20 AM, 09 July 2020 )

The relationship between department to employees is

Select the correct option



Many to many



One to one



One to many



Many to one

Grand Quiz  
Cs403 - DBMS  
Solved by John

Department = single

Employees = plural

One to many

Question # 22 of 30 ( Start time: 01:42:13 AM, 09 July 2020 )

Logical data independency provides independency to change \_\_\_\_\_ model.

Select the correct option



external



logical



conceptual



internal

Grand Quiz  
Cs403 - DBMS  
Solved by John

p.44

### Logical data independence

Logical data independence provides the independence such that changes in conceptual model do not affect the external view. Simply it can be stated at the Immunity of external view to changes at conceptual level.

Although we have data independence at different levels, we should be careful before making a change to any level because not all changes are accepted transparently at all levels. There may be some changes which may

Question # 23 of 30 ( Start time: 01:44:03 AM, 09 July 2020 )

Which of the following is correct regarding Dataflow diagram?

Select the correct option

- |                                  |   |
|----------------------------------|---|
| <input type="radio"/>            | Single DFD is required to represent a system                    |
| <input type="radio"/>            | Created at increasing levels of detail                          |
| <input checked="" type="radio"/> | The dataflow must be bidirectional                              |
| <input type="radio"/>            | Used to represent the relationships among the external entities |
- Grand Quiz  
Cs403 - DBMS  
Solved by John

Note sure

p.56

### **Data Flow Diagrams:**

The most common tool used for designing database systems is the Data Flow Diagram (DFD). It is used to design systems graphically and expresses different levels of detail.

DFDs show the flow of data between different processes.

DFDs are simple, and hide complexities.

DFDs are Descriptive and links between processes describe

Question # 24 of 30 ( Start time: 01:45:52 AM, 09 July 2020 )

Entities enrolled in a relationship are called

Select the correct option

<input type="radio"/>	Roles
<input checked="" type="radio"/>	Participants
<input type="radio"/>	Instances
<input type="radio"/>	Symbols

Grand Quiz  
Cs403 - DBMS  
Solved by John

p.86

- Entities enrolled in a relationship are called its *participants*.

The participation of an entity in a relationship is *total* when all entities of that set must be participant in the relationship otherwise it is *partial* e.g. if every *Part* is supplied by a *Supplier* then the SUPP\_PART relationship is total. If certain parts are available with only a supplier then it is partial.

Question # 25 of 30 ( Start time: 01:46:47 AM, 09 July 2020 )

In \_\_\_\_\_ join, only selected rows of a relation are made cross product with second relation.

Select the correct option

<input type="radio"/>	Normal
<input checked="" type="radio"/>	Theta
<input type="radio"/>	Outer
<input type="radio"/>	Semi

Grand Quiz  
Cs403 - DBMS  
Solved by John

157

Theta Join:

In theta join we apply the condition on input relation(s) and then only those select rows are used in the cross product to be merged and included in the output. It means that in normal cross product all the rows of one relation are mapped/merged with the rows of second relation, but here only selected rows of a relation are made cross product with second relation. It is denoted as under: -

$R \bowtie S$

Question # 26 of 30 ( Start time: 01:47:43 AM, 09 July 2020 )

Which of the following constraints enforces entity integrity?

Select the correct option

<input type="radio"/>	PRIMARY KEY
<input type="radio"/>	FOREIGN KEY
<input type="radio"/>	CHECK
<input checked="" type="radio"/>	NOT NULL

Grand Quiz  
Cs403 - DBMS  
Solved by John

Not sure .

Confirm it.

Correct as per past papers.



Question # 27 of 30 ( Start time: 01:50:04 AM, 09 July 2020 )

By default, a non-key attribute in a relation can have \_\_\_\_\_ value.

Select the correct option



Binary



Null



Character



Integer

Grand Quiz  
Cs403 - DBMS  
Solved by John

Not sure

Question # 28 of 30 ( Start time: 01:52:01 AM, 09 July 2020 )

Which feature of database provides conversion from inconsistent state of DB to a consistent state ensuring minimum data loss?

Select the correct option

<input type="radio"/>	User accessible catalog
<input type="radio"/>	Data processing
<input checked="" type="radio"/>	Recovery service
<input type="radio"/>	Authorization service

Grand Quiz  
Cs403 - DBMS  
Solved by John

p.47

- **Recovery Services**

Recovery services mean that in case a database gets an inconsistent state to get corrupted due to any invalid action of someone, the DBMS should be able to recover itself to a consistent state, ensuring that the data loss during the recovery process of the database remains minimum.

Question # 28 of 30 ( Start time: 01:52:01 AM, 09 July 2020 )

Which feature of database provides conversion from inconsistent state of DB to a consistent state ensuring minimum data loss?

Select the correct option

<input type="radio"/>	User accessible catalog
<input type="radio"/>	Data processing
<input checked="" type="radio"/>	Recovery service
<input type="radio"/>	Authorization service

Grand Quiz  
Cs403 - DBMS  
Solved by John

P.47

- **Recovery Services**

Recovery services mean that in case a database gets an inconsistent state to get corrupted due to any invalid action of someone, the DBMS should be able to recover itself to a consistent state, ensuring that the data loss during the recovery process of the database remains minimum.

Question # 29 of 30 ( Start time: 01:53:49 AM, 09 July 2020 )

Free standing data dictionary is created by

Select the correct option

<input type="radio"/>	DFD
<input type="radio"/>	Database
<input checked="" type="radio"/>	CASE tools
<input type="radio"/>	Cross Reference Matrix

Grand Quiz  
Cs403 - DBMS  
Solved by John

p.65

○ **Free Standing**

Second type of data dictionary is free standing data dictionary create by any CASE tool and then attached to the database management systems. A number of case tools are available for this purpose and help user designing the database and the database applications as well in some modern forms of the CASE tools.

Question # 30 of 30 ( Start time: 01:55:53 AM, 09 July 2020 )

A \_\_\_\_\_ is used to combine rows from two or more tables, based on a related column between them.

Select the correct option

<input type="radio"/>	Select operator
<input type="radio"/>	Project operator
<input checked="" type="radio"/>	Join operation
<input type="radio"/>	Delete operator

Not sure

Grand Quiz  
Cs403 - DBMS  
Solved by John